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SERVICE MANUAL

VR8809/8709/8609/8509/8459/8409/5809C/SV-C120UM/C100UP/C141P/C142P/C105P

SAMSUNG

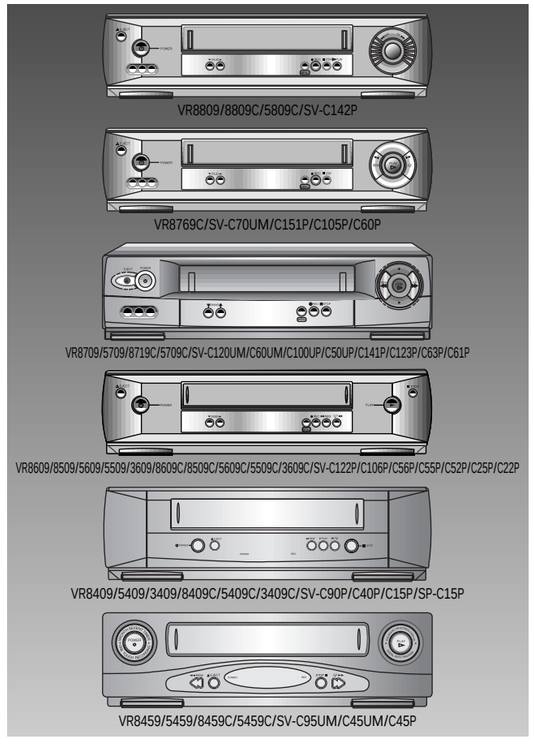
VIDEO CASSETTE RECORDER

VR8809/8709/8609/8509/8459/8409
VR5709/5609/5509/5459/5409/3609/3409
VR8809C/8769C/8719C/8609C/8509C/8459C/8409C
VR5809C/5709C/5609C/5509C/5459C/5409C/3609C/3409C
SV-C120UM/C95UM/C70UM/C60UM/C45UM
SV-C100UP/C60P/C50UP/C141P/C61P
SV-C106P/C56P/C151P/C45P/C123P/C63P
SV-C105P/C55P/C25P/SV-C15P/SP-C15P
SV-C142P/C122P/C90P/C52P/C40P/C22P

SERVICE Manual

For mechanical disassembly and adjustment, refer to the “Mechanical Manual” (DX-9R → AC68-00001A).

VIDEO CASSETTE RECORDER



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2. Alignment and Adjustment

3. Exploded View and Parts List

4. Electrical Parts List

5. Schematic Diagrams

IMPORTANT SERVICE GUIDE

◆ MODE SWITCH (PROGRAM SWITCH) ASSEMBLY POINT

1) When installing the ass'y full deck on the Main PCB, be sure to align the assembly point of mode switch.

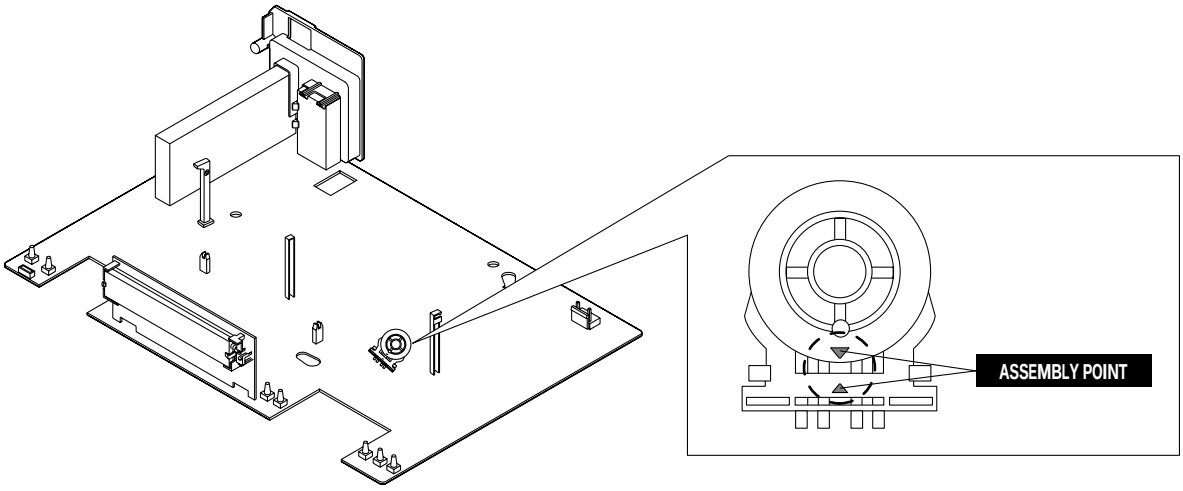


Fig. 1

◆ HOW TO EJECT THE CASSETTE TAPE
(If the unit does not operate on condition that tape is inserted into housing ass'y)

1) Remove the Holder Worm ❶ and the gear worm ❷. (See Fig. 2)
2) Turn the Gear Worm Wheel ❸ counterclockwise in the direction of arrow with screw driver. (See Fig. 2)
3) When Slider S, T are approched in the position of unloading, rotate holder Clutch counterclockwise after inserting screw driver in the hole of frame's bottom in order to wind the unwinded tape. (Refer to Fig. 3)
   (If you rotate Gear Worm Wheel continuously when tape is in state of unwinding, you may cause a tape contamination by grease and tape damage. Be sure to wind the unwinded tape in the state of set horizontly.)
4) Rotate Gear Worm Wheel ❸ counterclockwise using screw driver again up to the state of eject mode and then pick out the tape. (Refer to Fig. 2)

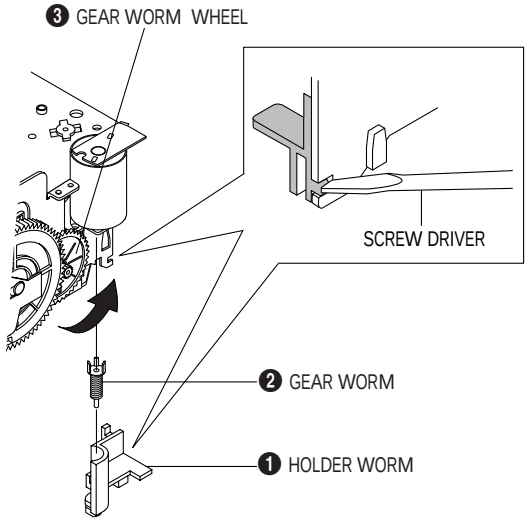


Fig. 2

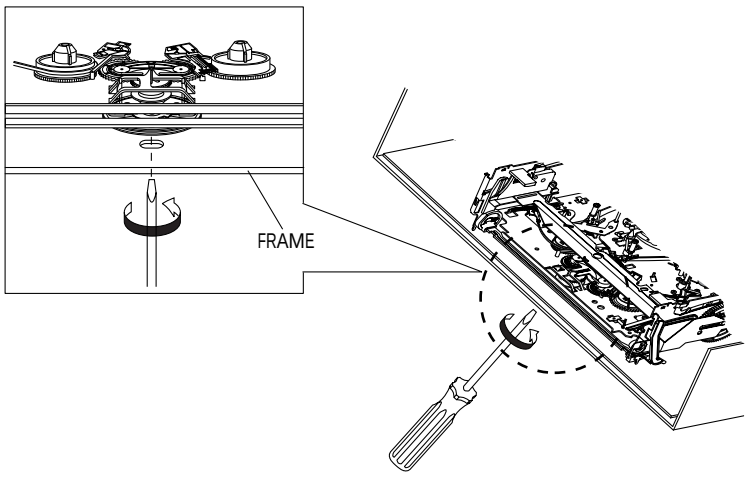


Fig. 3

1. Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all pretective devices, including : control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people--particularly children --might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (See Fig. 1-1) :
   Warning : Do not use an isolation transformer during this test. Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

5. With the unit completely reassembled, plug the AC line cord directly the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known erath ground (metal water pipe, conduit, etc.) and all exposed metal parts, including : antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

6. X-ray Limits :
   The picture tube is designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original.

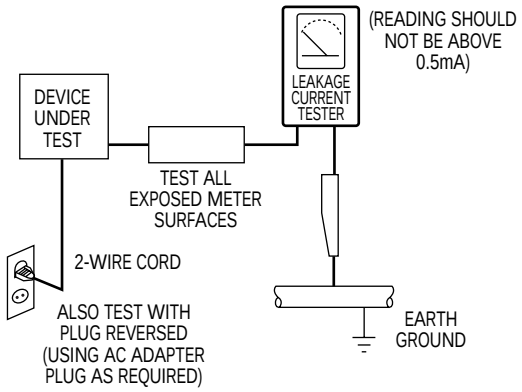


Fig. 1-1 AC Leakage Test

7. Antenna Cold Check :
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong.
   Connect the other lead to the coaxial connector.

8. High Voltage Limit :
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.

   Heed the high voltage limits. These include the X-ray protection Specifications Label, and the Product Safety and X-ray Warning Note on the service data schematic.

9. Some semiconductor ("solid state") devices are easily damaged by static electricity.
   Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

10. Immediately before handling sny semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging Wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)

11. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

12. Design Alteration Warning :
    Never alter or add to the mechanical or electrical design of this unit. Example : Do not add auxiliary audio or video connectors.
    Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

13. Hot Chassis Warning :
    Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following : Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

14. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.

15. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

16. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

17. Observe the original lead dress, especially near the following areas : Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

18. Picture Tube Implosion Warning :
    The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

19. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

20. Product Safety Notice :
    Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.

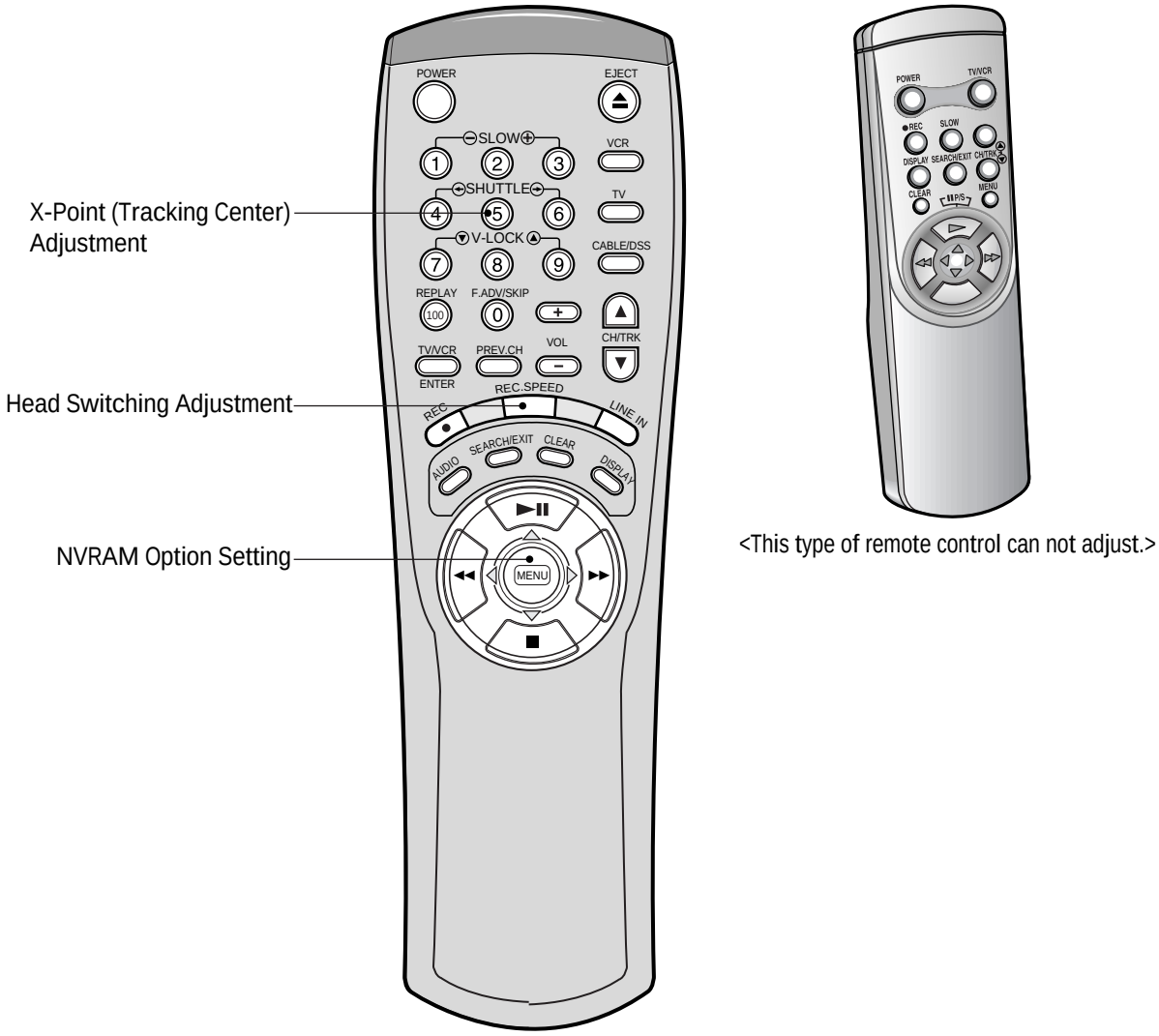
    Components that are critical for safety are indicated in the circuit diagram by shading, (⚠ or ⚠).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

2. Alignment and Adjustment

2-1 Reference

1) X-Point (Tracking center) adjustment, “Head switching adjustment” and “NVRAM option setting” can be adjusted with remote control.
2) When replacing the Micom (IC601) and NVRAM (IC603 ; EEPROM) be sure to adjust the “Head switching adjustment” and “NVRAM option setting”.
3) When replacing the cylinder ass’y, be sure to adjust the “X-Point” and “Head switching adjustment”.
4) Among Samsung VCR remote control used for adjustment as a accessory, only the remote control that has figures buttons (0 ~ 9) is available for all adjustment regardless of chassis.
5) How to adjustment.
   - Intermittently short-circuit the test point on Main PCB with pincets to set the adjustment mode.
   - If the corresponding adjustment button is pressed, the adjustment is preformed automatically.
   - If the adjustment is completed, be sure to turn the power off.

2-1-1 Location of adjustment button of remote control



<This type of remote control can not adjust.>

<This type of remote control can adjust.>

Remote Control for adjustment is not supplied as a Service Jig.

Fig. 2-1

2-1-2 Test point location for adjustment mode setting

Application Models ;

VR8809/8709/8609/8509/5709/5609/5509/3609
VR8809C/8769C/8719C/8609C/8509C/5809C/5709C/5609C/5509C/3609C
SV-C120UM/C70UM/C60UM/C100UP/C60P/C50UP
SV-C141P/C61P/C106P/C56P/C151P/C123P/C63P/C142P/C122P/C52P/C22P/C105P/C55P/C25P

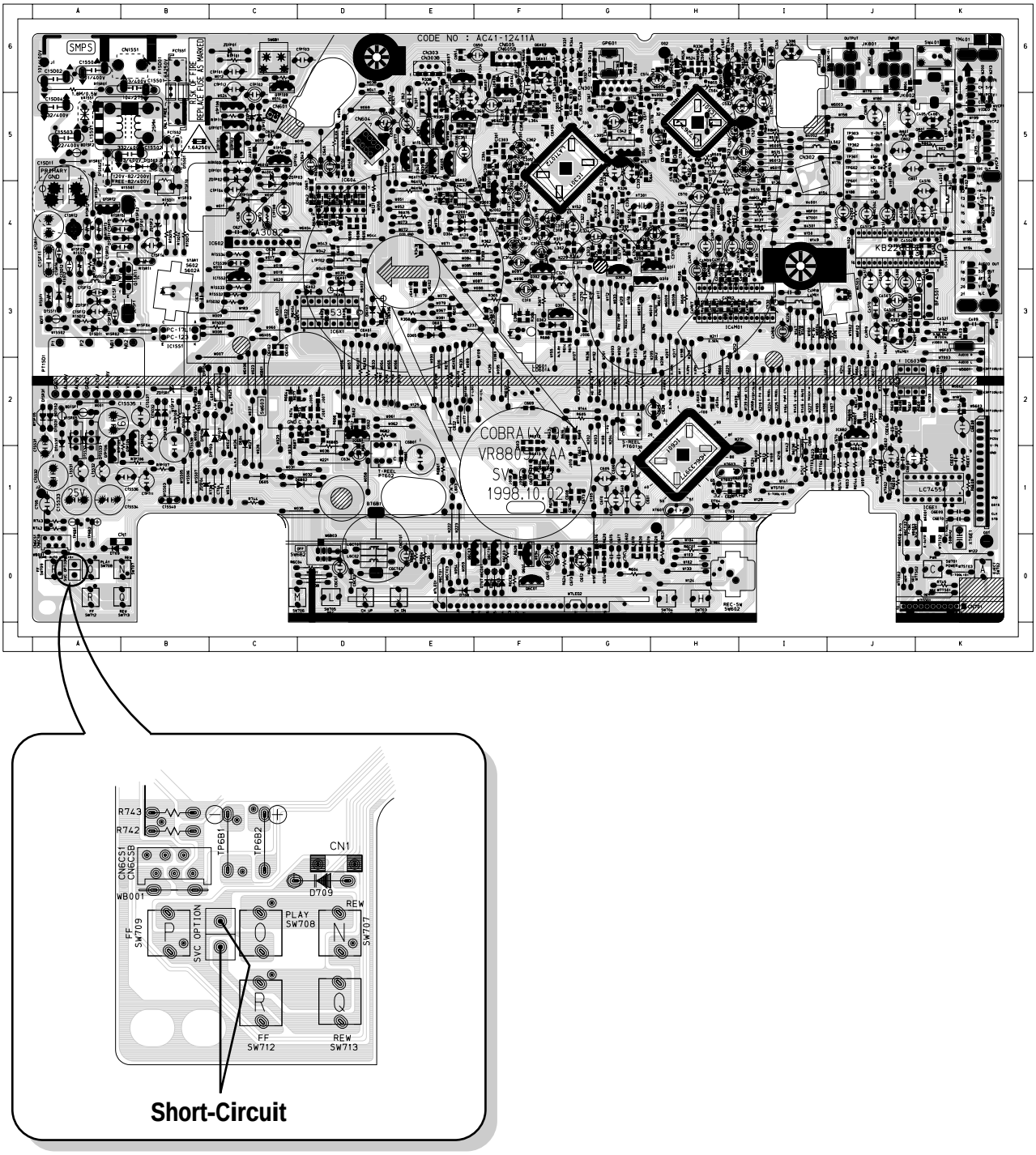


Fig. 2-2 Main PCB (Bottom View)

Application Models ;

VR8459/8409/5459/5409/3409
VR8459C/8409C/5459C/5409C/3409C
SV-C95UM/C45UM/C90P/C45P/C40P/C15P/SP-C15P

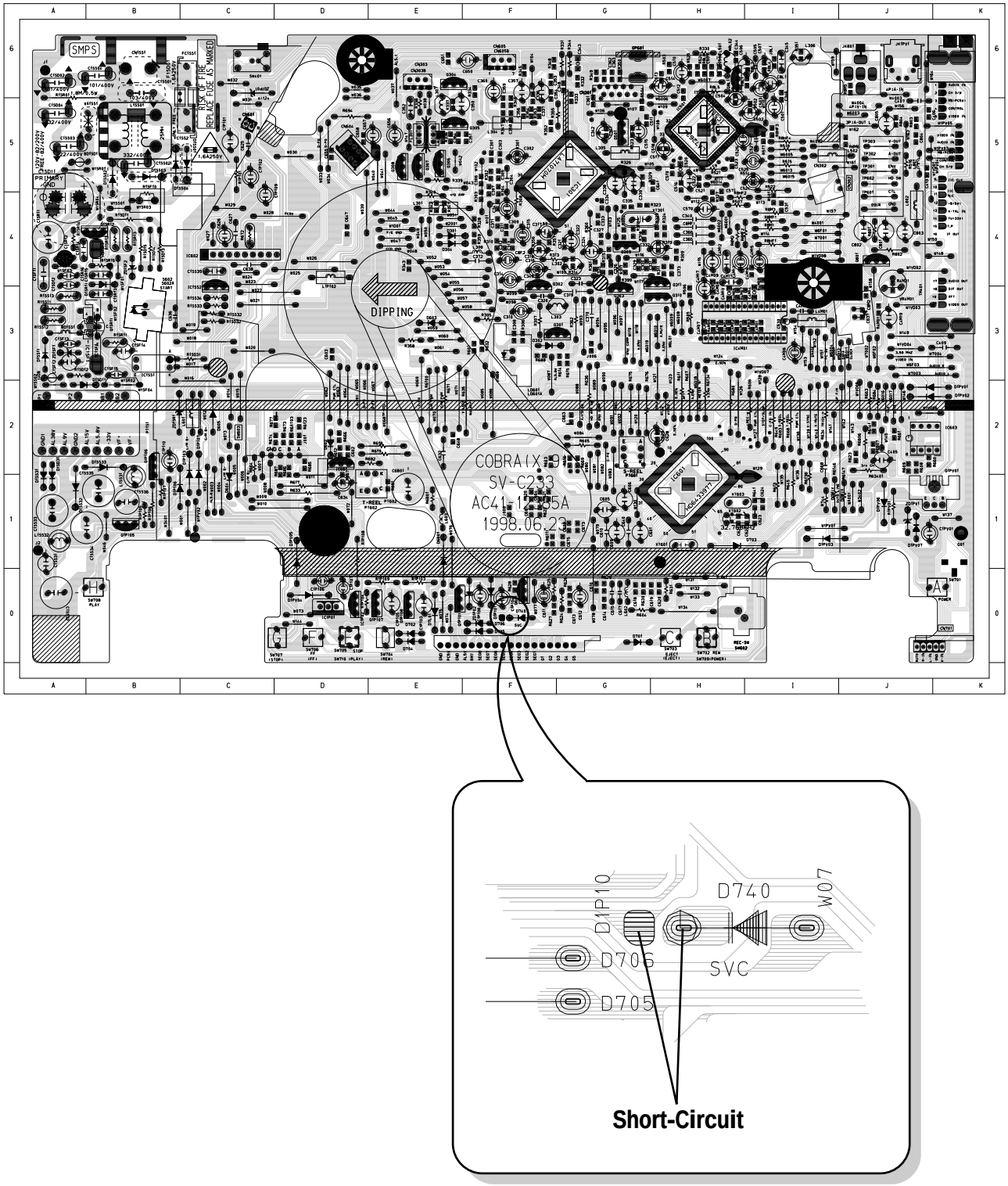


Fig. 2-3 Main PCB (Bottom View)

2-2 Mechanical Adjustment

Note : Refer to the Mechanical Manual "DX-9R (AC68-00001A)" for the adjustment and confirmation of ass'y full deck.

2-2-1 The number and position of test point

Test point :	TP601 (Control Pulse)
	TP602 (H'D S/W -Trigger)
	TP301 (Envelope)
	TP302 (Audio output)
	TP303 (Video output)

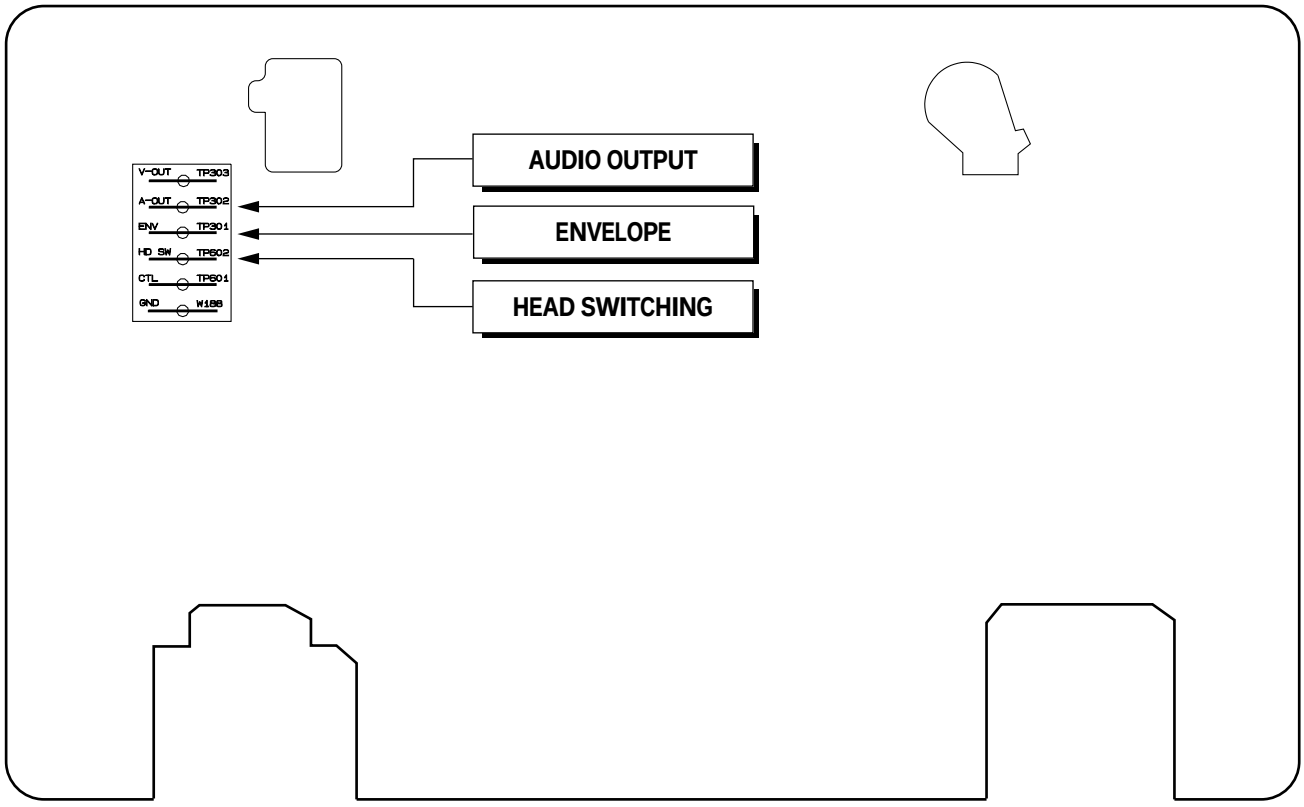


Fig. 2-4 Location of Test point (Main PCB-Top View)

2-2-1 ACE Head Position (X-Point) Adjustment

(See the 2-2-1(d) ACE Head Position (X-Point) Adjustment on page 2-2 of the Mechanical Manual)

1) Playback the alignment tape (Color bar).
2) Intermittently short-circuit the two test points on Main PCB to set the adjustment mode. (See Fig. 2-2 and 2-3)
3) Press the "5" button of remote control then adjustment is operated automatically. (See Fig. 2-1)
4) Connect the CH-1 probe to TP301 (Envelope) the CH-2 probe to TP602 (H'D switching pulse) and then trigger to CH-1.
5) Insert the (-) driver into the X-Point adjustment hole and adjust it so that envelope waveform is maximum.
6) Turn the Power off.

2-3 Head Switching Point Adjustment

1) Playback the alignment tape.
2) Intermittently short-circuit the two test points on Main PCB to set the adjustment mode. (See Fig. 2-2 and 2-3)
3) Press the "REC.SPEED" button of remote control then adjustment is operated automatically. (See Fig. 2-1)
4) Turn the Power off.

2-4 NVRAM Option Setting

1) NVRAM Option is adjusted at production line basically.
2) In case Micom (IC601) and NVRAM (IC603 ; EEPROM) is replaced, be sure to set the corresponding option number of the repaired model. (If the option is not set, the unit is not operated.)

1) Intermittently short-circuit the two test points on Main PCB to set the adjustment mode. (See Fig. 2-2 and 2-3)
2) Press the "MENU" button on the remote control about 5 seconds then option setting display is appeared. (See Fig. 2-5)
3) Select the option number (See Table 2-1 ; Page 2-6) of corresponding model with "FF" and "REW" button on the remote control.
4) If selecting the option number is completed, press the "STOP" button of remote control. (If "STOP" button is pressed, the selected number is changes reversed color. ; See Fig. 2-5)
5) Press the "MENU" button of remote control again to store the option number. ("save" is displayed for a second as shown Fig. 2-6 and this setting is completed.)
6) Turn the Power off.

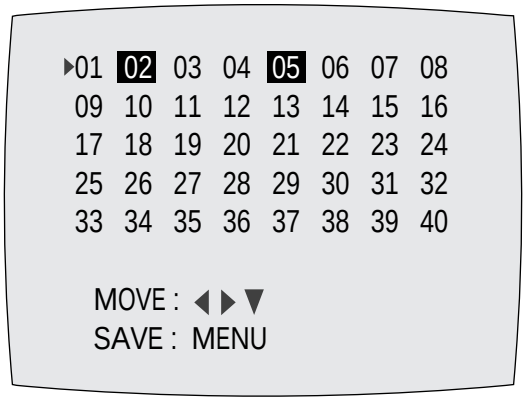


Fig. 2-5

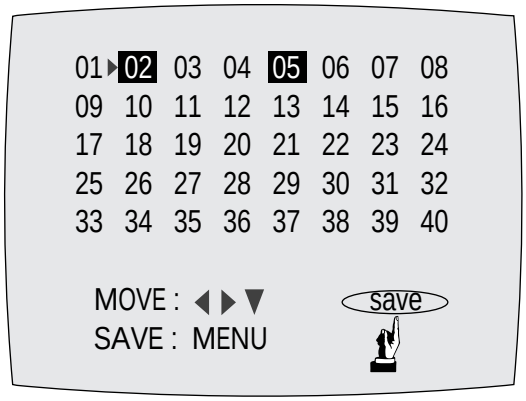


Fig. 2-6

<Table 2-1>

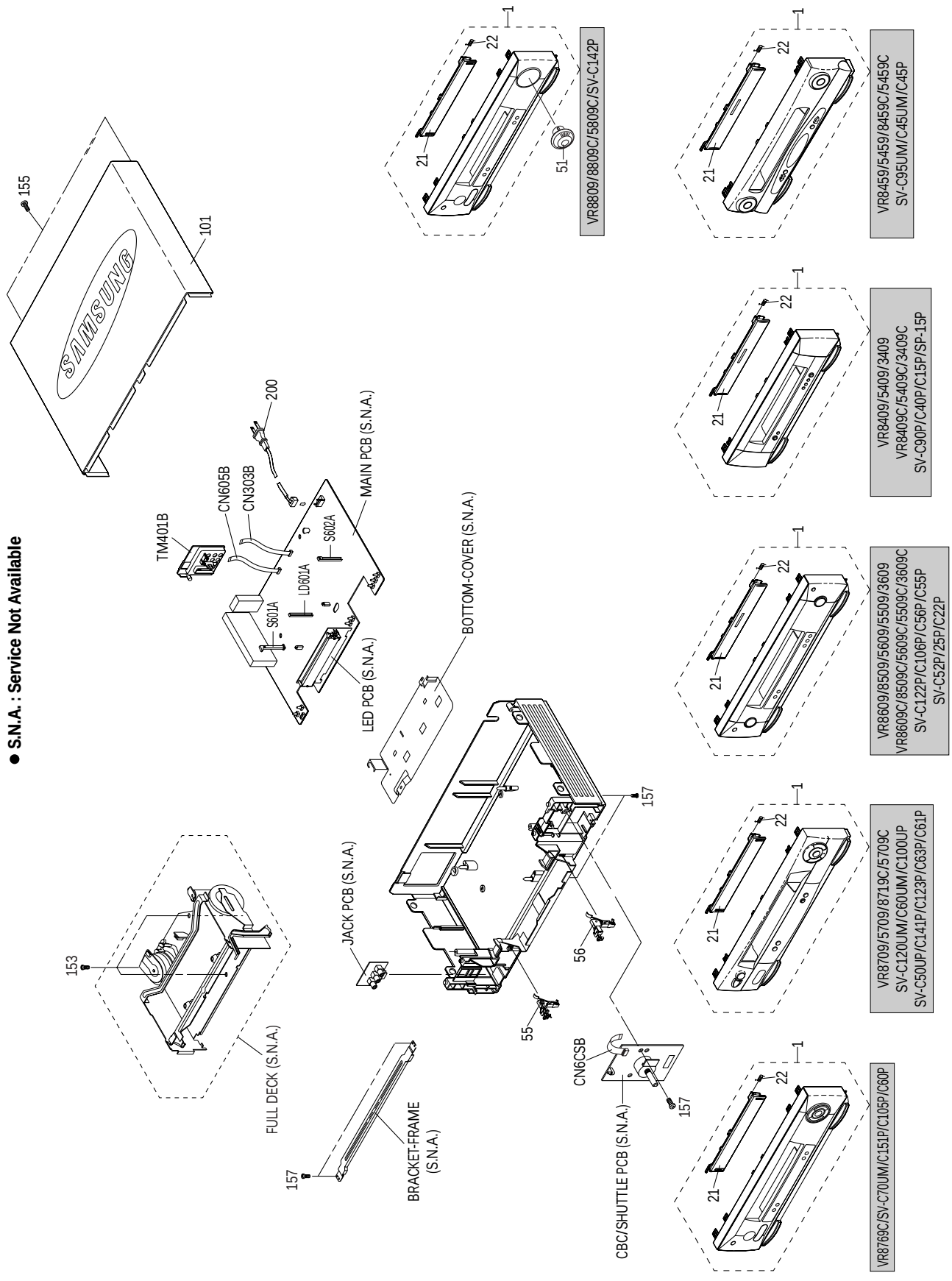
COUNTRY	MODELS	OPTION NUMBER
U.S.A.	VR8809	2, 4, 5, 6, 7, 9, 18, 27, 33, 34, 35, 36
	VR8709	2, 5, 6, 7, 9, 18, 29, 34, 36
	VR8609	2, 6, 7, 18, 28, 34, 36
	VR8509	2, 6, 7, 18, 28, 34, 36
	VR8459	2, 7, 12, 20, 30, 36
	VR8409	2, 7, 12, 20, 30, 36
	VR5709	5, 6, 7, 9, 18, 29, 34, 36
	VR5609	6, 7, 18, 28, 34, 36
	VR5509	6, 7, 18, 28, 34, 36
	VR5459	7, 12, 20, 30, 36
	VR5409	7, 12 ,20, 30, 36
	VR3609	1, 6, 7, 18, 28, 34, 36
	VR3409	1, 7, 12, 20, 30, 36
CANADA	VR8809C	2, 4, 5, 6, 7, 9, 18, 27, 33, 34, 35, 36
	VR8769C	2, 4, 5, 6, 7, 9, 18, 26, 33, 34, 36
	VR8719C	2, 5, 6, 7, 9, 18, 29, 33, 34, 36
	VR8609C	2, 6, 7, 18, 28, 34, 36
	VR8509C	2, 6, 7, 18, 28, 34, 36
	VR8459C	2, 7, 12, 20, 30, 36
	VR8409C	2, 7,12, 20, 30, 36
	VR5809C	4, 5, 6, 7, 9, 18, 27, 33, 34, 35, 36
	VR5709C	5, 6, 7, 9, 18, 29, 34, 36
	VR5609C	6, 7, 18, 28, 34, 36
	VR5509C	6, 7, 18, 28, 34, 36
	VR5459C	7, 12, 20, 30, 36
	VR5409C	7, 12, 20, 30, 36
	VR3609C	1, 6, 7, 18, 28, 34, 36
	VR3409C	1, 7, 12, 20, 30, 36
MEXICO	SV-C120UM	2, 5 ,6, 7, 18, 29, 36, 37
	SV-C95UM	2, 7, 12, 20, 30, 36, 37
	SV-C70UM	5, 6, 7, 18, 26, 36, 37
	SV-C60UM	6, 7, 18, 29, 36, 37
	SV-C45UM	7, 12, 20, 30, 36, 37
PANAMA	SV-C100UP	2, 6, 7, 18, 29, 36, 37
	SV-C60P	5, 6, 7, 18, 26, 36, 37
	SV-C50UP	6, 7, 18, 29, 36, 37
CHILE	SV-C141P	2, 4, 5, 6, 7, 18, 29, 36, 37
	SV-C61P	5, 6, 7, 18, 29, 36, 37
	SV-C106P	2, 6, 7, 18, 28, 36, 37
	SV-C56P	6, 7, 18, 28, 36, 37
PERU	SV-C151P	2, 4, 5, 6, 7, 18, 26, 36, 37
	SV-C45P	7, 12, 20, 30, 36, 37
BOLIVIA	SV-C123P	2, 5, 6, 7, 18, 29, 36, 37
	SV-C63P	5, 6, 7, 18, 29, 36, 37
PHILIPPINESS	SV-C105P	2, 6, 7, 18, 26, 36
	SV-C55P	6, 7, 18, 28, 36
	SV-C25P	1, 6, 7, 18, 28, 36
	SV-C15P	1, 3, 6, 12, 22, 30, 36
	SP-C15P	1, 3, 12, 21, 30, 36
AAFES	SV-C142P	2, 4, 5, 6, 7, 18, 27, 34, 35, 36
	SV-C122P	2, 5, 6, 7, 18, 28, 34, 36
	SV-C90P	2, 7, 12, 20, 30, 36
	SV-C52P	6, 7, 18, 28, 34, 36
	SV-C40P	7, 12, 20, 30, 36
	SV-C22P	1, 6, 7, 18, 28, 34, 36

3. Exploded View and Parts List

Page

3-1 Cabinet Assembly - - -

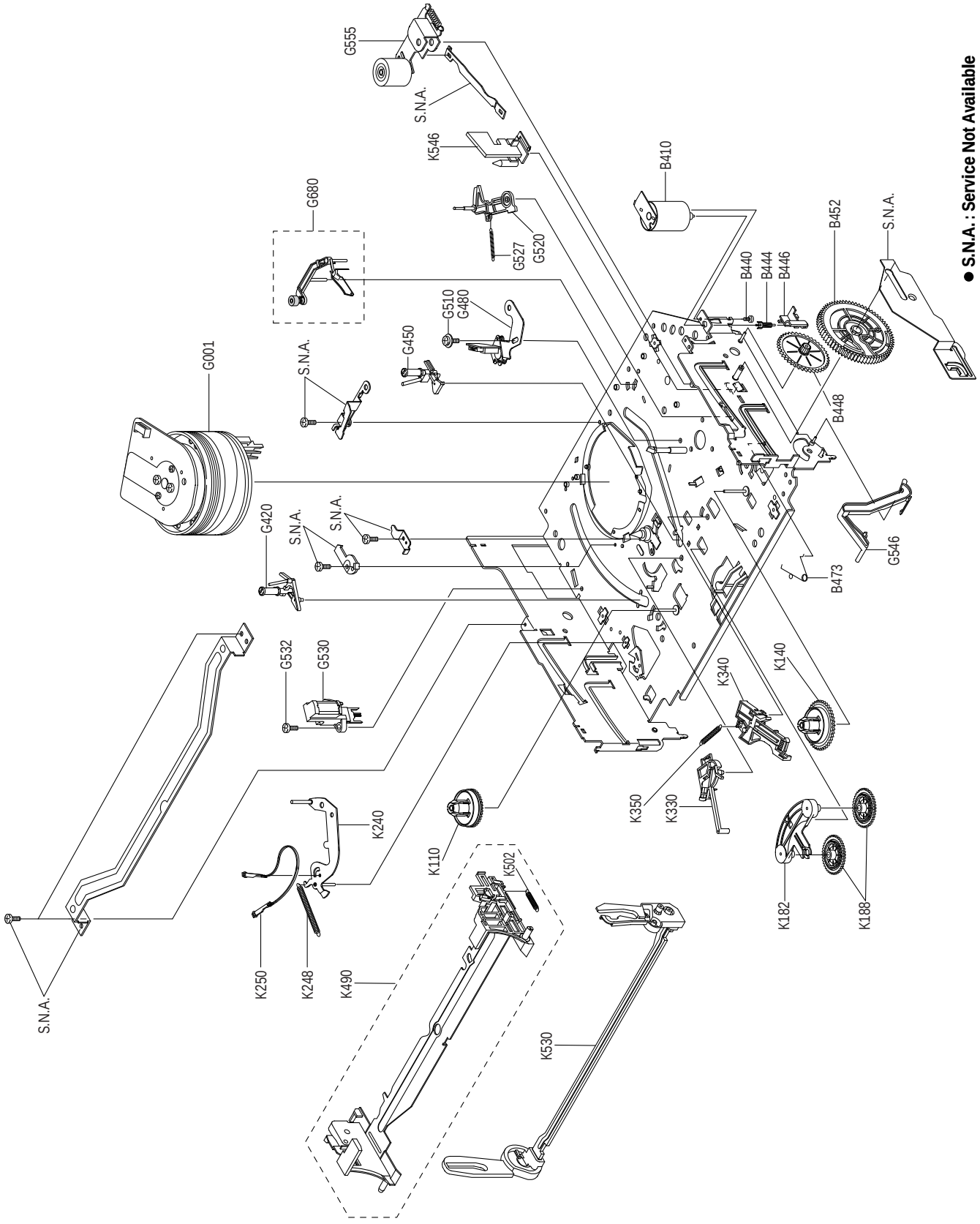
3-1 Cabinet Assembly



Loc. No	Parts No.	Description ; Specification	Remark
1	**Refer to table below**	ASSY-PANEL FRONT	
21	**Refer to table below**	DOOR-CASSETTE	
22	AC61-62032A	SPRING-MASK;X-9,-,SUS,-,4.4,-,SV-C130	
51	**Refer to table below**	KNOB-SHUTTLE ASSY;VR8909,ABS94,HB,BLK,-,	
55	AC61-30164D	LOCKER-CODO ASSY L;-,LUCEL+SECC+SUS,-,-,	(OPTIONAL)
56	AC61-30164C	LOCKER-CODO ASSY R;-,LUCEL+SECC+SUS,-,BL	(OPTIONAL)
101	**Refer to table below**	CABINET-TOP;X-9,SECC,PCM,0.5,	
153	AC60-12126A	SCREW-BH;-,BH,-,4*12,FE,FZY,-,-,-	
155	AC60-12134A	SCREW-TAP BH;-,BH,-,2-4X16,-,FE	
157	AC60-10063A	SCREW-TAPTITE;BH,+,-,M3,L12,ZPC3,SWRCH18	
200	**Refer to table below**	POWER-CORD;SPT-2,AWG#18,1.8MT,WAFER,	
CN303B	3809-001110	CABLE-FLAT;30V,80C,150mm,7P,1.25mm,UL289	
CN605B	3809-001112	CABLE-FLAT;30V,80C,130mm,5P,1.25mm,UL289	
CN6CSB	3809-001112	CABLE-FLAT;30V,80C,130mm,5P,1.25mm,UL289	
LD601A	AC61-21009A	HOLDER-LED;-,POM(M90-44),-,BLK,-,X-9	
S601A	AC61-21008A	HOLDER-SENSOR;-,POM(M90-44),-,BLK,-,X-9	
S602A	AC61-21008A	HOLDER-SENSOR;-,POM(M90-44),-,BLK,-,X-9	
TM401B	**Refer to table below**	CONNECTOR BOARD-ASSY;VR-8809/SEA,HIPS94+	

COUNTRY	MODELS	1	21	51	101	200	TM401B
U.S.A.	VR8809	AC98-12100Y	AC64-52156A	AC64-11151A	AC64-30892A	AC39-10200N	AC61-11056J
	VR8709	AC98-11258N	AC64-52171A	-	AC64-30892A	AC39-10200N	AC61-11056J
	VR8609	AC98-11258W	AC64-52158B	-	AC64-30892A	AC39-10200N	AC61-11056J
	VR8509	AC98-11260E	AC64-52158C	-	AC64-30892A	AC39-10200N	AC61-11056J
	VR8459	AC97-00061A	AC64-50997E	-	AC64-30891B	AC39-10200N	AC61-11057C
	VR8409	AC98-12102K	AC64-50991B	-	AC64-30891A	AC39-10200N	AC61-11057C
	VR5709	AC98-11258P	AC64-52171F	-	AC64-30892A	AC39-10200N	AC61-11056K
	VR5609	AC98-11258X	AC64-52158D	-	AC64-30892A	AC39-10200N	AC61-11056K
	VR5509	AC98-11260F	AC64-52158E	-	AC64-30892A	AC39-10200N	AC61-11056K
	VR5459	AC97-00062A	AC64-50997F	-	AC64-30891B	AC39-10200N	AC61-11057B
	VR5409	AC98-12102L	AC64-50991C	-	AC64-30891A	AC39-10200N	AC61-11057B
	VR3609	AC98-11258Y	AC64-52158F	-	AC64-30892A	AC39-10200N	AC61-11056K
	VR3409	AC97-00077A	AC64-50991N	-	AC64-30891A	AC39-10200N	AC61-11057B
CANADA	VR8809C	AC98-12105Y	AC64-52156F	AC64-11151A	AC64-30892A	AC39-10200N	AC61-11056J
	VR8769C	AC98-12105W	AC64-52156D	-	AC64-30892A	AC39-10200N	AC61-11056J
	VR8719C	AC98-11259G	AC64-52171H	-	AC64-30892A	AC39-10200N	AC61-11056J
	VR8609C	AC98-11258Z	AC64-52158G	-	AC64-30892A	AC39-10200N	AC61-11056J
	VR8509C	AC98-11260L	AC64-52158H	-	AC64-30892A	AC39-10200N	AC61-11056J
	VR8459C	AC97-00064A	AC64-50997G	-	AC64-30891B	AC39-10200N	AC61-11057C
	VR8409C	AC97-00078A	AC64-50991P	-	AC64-30891A	AC39-10200N	AC61-11057C
	VR5809C	AC98-12105X	AC64-52156E	AC64-11151A	AC64-30892A	AC39-10200N	AC61-11056K
	VR5709C	AC98-11259H	AC64-52171G	-	AC64-30892A	AC39-10200N	AC61-11056K
	VR5609C	AC98-11260M	AC64-52158J	-	AC64-30892A	AC39-10200N	AC61-11056K
	VR5509C	AC97-00142A	AC64-52158P	-	AC64-30892A	AC39-10200N	AC61-11056K
	VR5459C	AC97-00066A	AC64-50997H	-	AC64-30891B	AC39-10200N	AC61-11057B
	VR5409C	AC97-00079A	AC64-50991S	-	AC64-30891A	AC39-10200N	AC61-11057B
	VR3609C	AC98-11259A	AC64-52158K	-	AC64-30892A	AC39-10200N	AC61-11056K
	VR3409C	AC97-00080A	AC64-50991R	-	AC64-30891A	AC39-10200N	AC61-11057B
MEXICO	SV-C120UM	AC98-11259S	AC64-52171B	-	AC64-30892A	AC39-10200N	AC61-11056C
	SV-C95UM	AC98-11259W	AC64-50997C	-	AC64-30891B	AC39-10200N	AC61-11057C
	SV-C70UM	AC97-00087A	AC64-52156G	-	AC64-30892A	AC39-10200N	AC61-11054A
	SV-C60UM	AC98-11259T	AC64-52171C	-	AC64-30892A	AC39-10200N	AC61-11054A
	SV-C45UM	AC98-11259X	AC64-50997D	-	AC64-30891B	AC39-10200N	AC61-11057B
PANAMA	SV-C100UP	AC98-11259U	AC64-52171D	-	AC64-30892A	AC39-10014A	AC61-11056C
	SV-C60P	AC98-12105Q	AC64-52156N	-	AC64-30892A	AC39-10019A	AC61-11054A
	SV-C50UP	AC98-11259V	AC64-52171E	-	AC64-30892A	AC39-10014A	AC61-11054A
CHILE	SV-C141P	AC97-00110A	AC64-52171J	-	AC64-30892A	AC39-10019A	AC61-11056C
	SV-C61P	AC97-00111A	AC64-52171K	-	AC64-30892A	AC39-10019A	AC61-11054A
	SV-C106P	AC97-00140A	AC64-00023L	-	AC64-30892B	AC39-10019A	AC61-11056C
	SV-C56P	AC97-00141A	AC64-00023M	-	AC64-30892B	AC39-10019A	AC61-11054A
PERU	SV-C151P	AC97-00088A	AC64-52156H	-	AC64-30892A	AC39-10019A	AC61-11056C
	SV-C45P	AC98-11260D	AC64-50997J	-	AC64-30891B	AC39-10019A	AC61-11057B
BOLIVIA	SV-C123P	AC97-00092A	AC64-52171L	-	AC64-30892A	AC39-10019A	AC61-11056C
	SV-C63P	AC97-00093A	AC64-52171M	-	AC64-30892A	AC39-10019A	AC61-11054A
PHILIPPINESS	SV-C105P	AC97-00115A	AC64-52158L	-	AC64-30892A	AC39-10019A	AC61-11056C
	SV-C55P	AC97-00135A	AC64-00023F	-	AC64-30892A	AC39-10019A	AC61-11054A
	SV-C25P	AC97-00136A	AC64-00023G	-	AC64-30892A	AC39-10019A	AC61-11054A
	SV-C15P	AC97-00083A	AC64-50991V	-	AC64-30891A	AC39-10019A	AC61-11057D
	SP-C15P	AC97-00084A	AC64-50991W	-	AC64-30891A	AC39-10019A	AC61-11057B
AAFES	SV-C142P	AC98-12105P	AC64-50991Q	AC64-11151A	AC64-30892A	AC39-10019A	AC61-11056C
	SV-C122P	AC97-00137A	AC64-00023H	-	AC64-30892A	AC39-10019A	AC61-11056C
	SV-C90P	AC98-11260A	AC64-50991T	-	AC64-30891A	AC39-10019A	AC61-11057C
	SV-C52P	AC97-00139A	AC64-00023J	-	AC64-30892A	AC39-10019A	AC61-11054A
	SV-C40P	AC98-11259Y	AC64-50991U	-	AC64-30891A	AC39-10019A	AC61-11057B
	SV-C22P	AC97-00138A	AC64-00023K	-	AC64-30892A	AC39-10019A	AC61-11054A

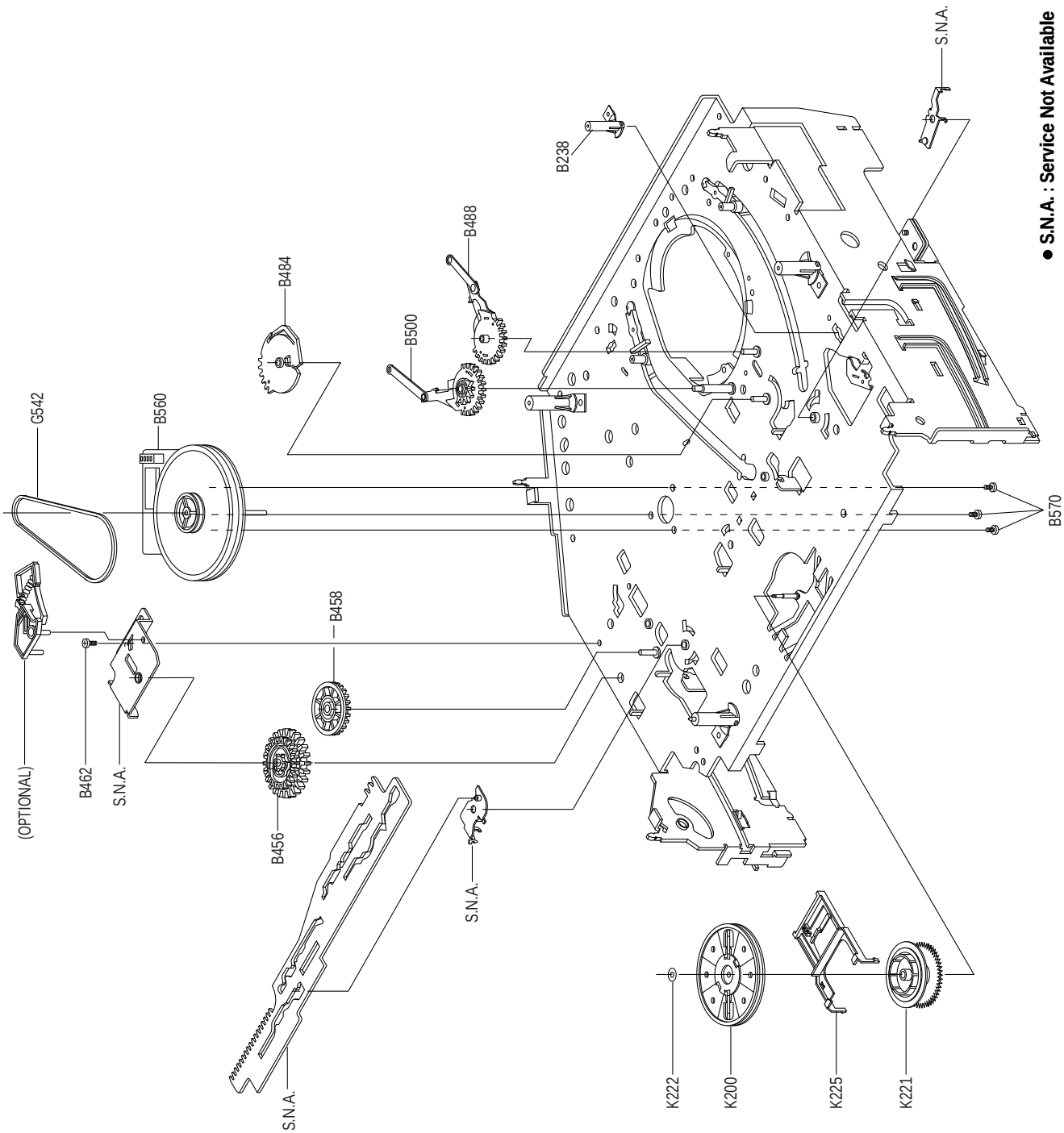
3-2 Mechanical Parts (Top Side)



Loc. No	Parts No.	Description ; Specification	Remark
B410	AC31-12016A	MOTOR-LOADING ASSY;-,-,X-9	
B440	AC60-10515A	SCREW-MACHINE;-,PH,+,-,M3,L3,ZPC,-,YEL	
B444	AC66-20571A	GEAR-WORM;-,POM SW-01,0.5,2,-,4.5,X-9	
B446	AC61-21005A	HOLDER-WORM;-,POM M90-44,-,-,-,X-9	
B448	AC66-20573A	GEAR-WORM WHEEL;-,POM SW-01,0.6,11,-,6.6	
B452	AC66-20575A	GEAR-FL CAM;-,POM SW-01,M0.6,Z88,-,PCD58	
B473	AC61-60559A	SPRING-PINCH DRIVE;-,TS,SUS304,PI0.5,OD4	
G001	AC96-10481K	ASSY-CYLINDER;CX-9, NTSC 6HD	(6HD NON-DIAMOND HEAD)
	AC96-10481H	ASSY-CYLINDER;CX-9, NTSC 4HD	(4HD NON-DIAMOND HEAD)
	AC96-10481F	ASSY-CYLINDER;CX-9, NTSC 2HD	(2HD NON-DIAMOND HEAD)
	AC96-10482N	ASSY-CYLINDER;CX-9, NTSC 6HD/DLC	(6HD DIAMOND HEAD)
	AC96-10482G	ASSY-CYLINDER;CX-9, NTSC 4HD/DLC	(4HD DIAMOND HEAD)
	AC96-10482C	ASSY-CYLINDER;CX-9, NTSC 2HD/DLC	(2HD DIAMOND HEAD)
G420	AC66-80142A	SLIDER-SUPPLY ASSY;-,X-9(TS),-,-,-,X-9	
G450	AC66-80141A	SLIDER-TAKE UP ASSY;-,X-9(TS),-,-,-,X-9	
G480	AC33-10217H	HEAD-ACE ASSY;-,-,-,-,X-9	
G510	AC60-10518A	SCREW-TAP TITE;-,PH,+,SW+ZW,M2.6,L5.6,ZP	
G520	AC66-30539A	LEVER-#9 GUIDE ASSY;-,X-9(TS),-,-,-,X-9	
G527	AC61-60553A	SPRING-#9 GUIDE;-,ES,SUS304-WPB,OD3.1,0.	
G530	AC33-10217G	HEAD-FE;VAA00000275,-,-,-,X-9	
G532	AC60-10519A	SCREW-TAP TITE;-,PH,+,-,M2.6,L8,ZPC	
G546	AC66-30535A	LEVER-FL DOOR;-,POM M90-44,-,-,BLK,X-9	
G555	AC59-90403A	UNIT-PINCH ASSY;X-9,-	
G680	AC66-30557A	LEVER-H/CLEANER ASSY;-,POM+URETHANE,-,-	(OPTIONAL)
K110	AC66-10267A	REEL-DISK S;-,POM M90-44,-,-,X-9	
K140	AC66-10268A	REEL-DISK T;-,POM M90-44,-,-,X-9	
K182	AC66-30524A	LEVER-IDLER;-,POM9044,-,-,-,-	
K188	AC66-20577A	GEAR-IDLER;-,PEBAX 7033,-,-,-,-,X-9	
K240	AC66-30538A	LEVER-TENSION ASSY;-,X-9(TS),-,-,-,X-9	
K248	AC61-60554A	SPRING-TENSION LEVER;-,ES,SUS304-WPB,OD3	
K250	AC63-12029A	BAND-BRAKE ASSY;-,X-9(TS),-,-,-,X-9	
K330	AC66-30550A	LEVER-S.BRAKE ASSY;-,POM+SUS,-,-,-,X-9	
K340	AC66-30549A	LEVER-T.BRAKE ASSY;-,POM+SUS,-,-,-,X-9	
K350	AC61-60564A	SPRING-BRAKE;-,TENSION,SWP-A,0.25,3,-,X-	
K490	**Refer to table below**	HOLDER-CASS ASSY;-,SECC+POM+SUS,-,-,-,X-	
K502	AC61-60561A	SPRING-FL.LEVER-LR;-,ES,SUS304 WPB,PI2.7	
K530	AC66-30546A	LEVER-FL.ARM ASS'Y;-,SECC+POM+SUS,-,-,-,	
K546	AC61-50658A	GUIDE-CASS. DOOR;-,POM M90-44,-,-,NTR,-,	

PARTS NO.	MODELS
AC61-21010A	VR8809/8709/8609/8509/8459/8409/5709/5609/5509/5459/5409/3609/3409 VR8809C/8769C/8719C/8609C/8509C/8459C/8409C/5809C/5709C/5609C/5509C/5459C/5409C/3609C/3409C
AC61-21010B	SV-C120UM/C95UM/C70UM/C60UM/C45UM/C100UP/C60P/C50UP/C141P/C61P/C106P/C56P SV-C151P/C45P/C123P/C63P/C105P/C55P/C25P/C15P/SP-15P SV-C142P/C122P/C90P/C52P/C40P/C22P

3-3 Mechanical Parts (Bottom Side)



Loc. No	Parts No.	Description ; Specification	Remark
B238	AC61-50660A	SLEEVE-TENSION;-,POM M90-44,-,-,ID3,-,-	
B456	AC66-20576A	GEAR-JOINT 1;-,POM SW-01,M1.0,Z22,-,PCD2	
B458	AC66-20574A	GEAR-JOINT 2;-,POM SW-01,M1.0,Z14,-,PCD1	
B462	AC60-10517A	SCREW-TAP TITE;-,PH,+,-,M2.6,L5,ZPC,-,YE	
B484	AC66-20580A	GEAR-LOADING DRIVE;-,POM SW-01,M1.0,Z32,	
B488	AC66-30543A	LEVER-S LOAD ASSY;-,-,-,-,-,X-9	
B500	AC66-30542A	LEVER-T LOAD ASSY;-,-,-,-,-,X-9	
B560	AC31-12017A	MOTOR-CAPSTAN;DMVCMC07C,-,X-9	
B570	AC60-10514A	SCREW-CAPSTAN;-,PH,+,M2.6,L6,-	
G542	AC66-60051A	BELT-PULLEY;-,5CM-70,2 * 2,-,71.3,-,X-9	
K200	AC61-21012A	HOLDER-CLUTCH ASSY;-,-,-,-,-,X-9	
K221	AC66-20581A	GEAR-CENTER ASSY;-,POM,M=O.5,-,HIGHT T.,	
K222	AC60-30306A	WASHER-SLIT;-,-,ID2.1,OD5.0,T0.5,-,POLYS	
K225	AC66-30547A	LEVER-UP DOWN ASSY;-,POM+SUS,-,-,-,X-9	

MEMO

4. Electrical Parts List

Loc.No	Part No	Description ; Specification	Remark
-	-	**ASSY-MAIN;X-9, NTSC**	**S.N.A.**

S.M.P.S./POWER PARTS (120 Voltage-1)

Application Models :
VR8809/8709/8609/8509/5709/5609/5509/3609
VR8809C/8769C/8719C/8609C/8509C/5809C/5709C/5609C/5509C/3609C
SV-C120UM/C70UM/C60UM/C100UP/C50UP

BD1SS1	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
BD1SS2	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
C1P101	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
C1P102	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C1P103	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm	
C1P104	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
C1P108	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C1P110	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm	
C1P112	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
C1P113	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C1P114	2203-001724	C-CERAMIC,CHIP;4.7nF,10%,50V	
C1SD11	2401-001681	C-AL;82uF,20%,200V,GP,TP,16x26,7.5m	
C1SD12	2201-000930	C-CERAMIC,DISC;220pF,10%,500V,Y5P,TP,6x4	
C1SR11	2401-001235	C-AL;4.7uF,20%,250V,WT,TP,10x12.5,5	
C1SR12	2401-000905	C-AL;22UF,20%,16V,BP,-,6X11,2.5MM	
C1SR13	2301-000176	C-FILM,PEF;18nF,5%,100V,TP,10X9X4.3X5,5m	
C1SR14	2301-000417	C-FILM,PEF;24NF,5%,50V,TP,6.5X10.5X4MM,5	
C1SR15	2301-000424	C-FILM,PEF;3.3nF,5%,50V,TP,5.5x7x3mm,5mm	
C1SR16	2201-000930	C-CERAMIC,DISC;220pF,10%,500V,Y5P,TP,6x4	
C1SS01	2201-000795	C-CERAMIC,DISC;10nF,10%,400V,Y5P,TP,15x1	⚠
C1SS02	2201-000934	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,18x	⚠
C1SS03	2201-000808	C-CERAMIC,DISC;2.2nF,10%,400V,Y5U,TP,12x	
C1SS04	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	
C1SS31	2401-000385	C-AL;10uF,20%,100V,GP,TP,6.3x11,5	
C1SS32	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS33	2401-002162	C-AL;1000uF,20%,25V,WT,TP,10x20,5mm	
C1SS34	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS35	2401-003059	C-AL;1000uF,20%,16V,GP,TP,10x16,5mm	
C1SS36	2401-001479	C-AL;470uF,20%,10V,GP,-,-,TP	
C1SS39	2301-000129	C-FILM,PEF;100nF,5%,50V,10X9X4.3X5,5mm,T	
CN1SS1	3711-000178	CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA	
D1P101	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P103	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P104	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P105	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P106	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P107	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P108	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	HI-FI Only
D1P109	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SD11	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SD31	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SR11	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SR31	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SS01	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS02	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS03	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS04	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS11	0402-000276	DIODE-RECTIFIER;UF4007,1KV,1A,DO-41,TP	
D1SS31	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SS32	0402-001194	DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP	
D1SS33	0402-000431	DIODE-RECTIFIER;FML-M02S,200V,2.5A,TO-22	
F1SD01	3601-001122	FUSE-FERRULE;250V,1.6A,FA,GLASS,5.2x20mm	⚠
IC1SS1	0604-001028	PHOTO-COUPLER;TR,50-600%,250mW,DIP-4,ST	⚠
IC1SS2	AC14-12006D	IC;KA431Z,TO-92,TAPING	⚠
L1P102	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L1SS01	AC29-30050C	FILTER-LINE NOISE;-,20mH,0.35A,AC250V,BS	⚠
L1SS31	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1SS32	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
PT1SD1	AC26-20120L	TRANS-SWITCHING;DP,230V,UL/CSA/DEMKO,EE2	⚠
Q1P101	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P102	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P104	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	HI-FI Only
Q1P105	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
Q1P106	0504-000116	TR-DIGITAL;KSR1001,NPN,300mW,4.7K-4.7K,T	
Q1P107	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P108	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q1P109	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q1SR11	0502-001123	TR-POWER;KTC4419,NPN,30W,TO-220,ST,10-4	
Q1SR12	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
R1P101	2001-000855	R-CARBON;560ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1P103	2001-000034	R-CARBON;220OHM,5%,1/4W,AA,TP,-	
R1P104	2001-000554	R-CARBON;270ohm,5%,1/8W,AA,TP,1.8x3.2mm	HI-FI Only
R1P104	2001-000325	R-CARBON;120ohm,5%,1/8W,AA,TP,1.8x3.2mm	MONO Only
R1P105	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,-	
R1P106	2001-000611	R-CARBON;3.9KOHM,5%,1/4W,AA,TP,-	
R1P107	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P108	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,	PCB No Marking
R1P108	2007-000493	R-CHIP;2.2KOHM,5%,1/10W,DA,TP,2012	PCB “A” Marking
R1P110	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SD11	2003-002117	R-METAL OXIDE(S);330Kohm,5%,1W,AA,TP,3.3	
R1SD12	2001-000490	R-CARBON;200OHM,5%,1/8W,AA,TP,-	
R1SD31	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SD32	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,-	
R1SR01	2002-000320	R-COMPOSITION;1.8Mohm,10%,1/2W,AA,TP,3.5	
R1SR11	2003-000119	R-METAL OXIDE;0.68ohm,5%,2W,AE,TP,6x16mm	
R1SR12	2003-000314	R-METAL OXIDE;47ohm,5%,2W,AE,TP,6x16mm	
R1SR13	2003-000314	R-METAL OXIDE;47ohm,5%,2W,AE,TP,6x16mm	
R1SR14	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SR15	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,-	
R1SS11	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS12	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS13	2003-000148	R-METAL OXIDE;100OHM,5%,2W,AE,TP,6X16MM	
R1SS32	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R1SS33	2004-000869	R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm	
R1SS34	2004-000459	R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m	
VA1SS1	1405-001026	VARISTOR;470V,600A,9x7mm,TP	⚠
ZD1P01	0403-000390	DIODE-ZENER;UZP33B,33V,31.4-34.6V,1W,DO-	
ZD1P02	0403-000717	DIODE-ZENER;MTZJ5.1B,5.1V,4.94-5.2V,500m	
ZD1P03	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500	
ZD1P05	0403-001211	DIODE-ZENER;MTZJ12B,12V,11.44-12.03V,500	
ZD1SR1	0403-000571	DIODE-ZENER;UZP43B,43V,40-46V,1W,DO-41,T	

S.M.P.S./POWER PARTS (120 Voltage-2)

Application Models :
VR8459/8409/5459/5409/3409/8459C
VR8409C/5459C/5409C/3409C
SV-C95UM/C45UM

BD1SF2	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
BD1SS1	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
C1P101	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
C1P102	2401-001479	C-AL;470uF,20%,10V,GP,-,-,TP	
C1P103	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C1P104	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C1P105	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C1P106	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	

Loc.No	Part No	Description ; Specification	Remark
C1P107	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C1P108	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C1P109	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C1P110	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C1SD11	2401-001681	C-AL;82uF,20%,200V,GP,TP,16x26,7.5m	
C1SD12	2201-000930	C-CERAMIC,DISC;220pF,10%,500V,Y5P,TP,6x4	
C1SR11	2401-001235	C-AL;4.7uF,20%,250V,WT,TP,10x12.5,5	
C1SR12	2401-000905	C-AL;22UF,20%,16V,BP,-,6X11,2.5MM	
C1SR13	2301-000176	C-FILM,PEF;18nF,5%,100V,TP,10X9X4.3X5,5m	
C1SR14	2301-000417	C-FILM,PEF;24NF,5%,50V,TP,6.5X10.5X4MM,5	
C1SR15	2301-000424	C-FILM,PEF;3.3nF,5%,50V,TP,5.5x7x3mm,5mm	
C1SR16	2201-000930	C-CERAMIC,DISC;220pF,10%,500V,Y5P,TP,6x4	
C1SS01	2201-000795	C-CERAMIC,DISC;10nF,10%,400V,Y5P,TP,15x1	⚠
C1SS02	2201-000934	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,18x	⚠
C1SS03	2201-000808	C-CERAMIC,DISC;2.2nF,10%,400V,Y5U,TP,12x	
C1SS04	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	
C1SS31	2401-000385	C-AL;10uF,20%,100V,GP,TP,6.3x11,5	
C1SS32	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS33	2401-002162	C-AL;1000uF,20%,25V,WT,TP,10x20,5mm	
C1SS34	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS35	2401-003059	C-AL;1000uF,20%,16V,GP,TP,10x16,5mm	
C1SS36	2401-001479	C-AL;470uF,20%,10V,GP,-,-,TP	
C1SS39	2301-000129	C-FILM,PEF;100nF,5%,50V,10X9X4.3X5,5mm,T	
CN1SS1	3711-000178	CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA	
D1P101	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P102	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P103	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P105	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P106	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P107	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1SD11	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SD31	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SR11	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SS01	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS02	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS03	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS04	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS11	0402-000276	DIODE-RECTIFIER;UF4007,1KV,1A,DO-41,TP	
D1SS31	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SS32	0402-001194	DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP	
D1SS33	0402-001194	DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP	
F1SD01	3601-001122	FUSE-FERRULE;250V,1.6A,FA,GLASS,5.2x20mm	⚠
IC1SS1	0604-001028	PHOTO-COUPLER;TR,50-600%,250mW,DIP-4,ST	⚠
IC1SS2	AC14-12006D	IC;KA431Z,TO-92,TAPING	⚠
L1P101	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L1P102	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L1SS01	AC29-30050C	FILTER-LINE NOISE;-,20mH,0.35A,AC250V,BS	⚠
L1SS31	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1SS32	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
PT1SD1	AC26-20120L	TRANS-SWITCHING;DP,230V,UL/CSA/DEMKO,EE2	⚠
Q1P101	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P102	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P103	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P104	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q1P105	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
Q1P106	0504-000116	TR-DIGITAL;KSR1001,NPN,300mW,4.7K-4.7K,T	
Q1P107	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q1P108	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q1P109	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1SR11	0502-001123	TR-POWER;KTC4419,NPN,30W,TO-220,ST,10-4	
Q1SR12	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
R1P101	2001-000855	R-CARBON;560ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1P102	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1P103	2001-000034	R-CARBON;220OHM,5%,1/4W,AA,TP,-	
R1P104	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1P105	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,-	
R1P106	2001-000611	R-CARBON;3.9KOHM,5%,1/4W,AA,TP,-	
R1P107	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P108	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P111	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,-	
R1P112	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R1SD11	2003-002117	R-METAL OXIDE(S);330Kohm,5%,1W,AA,TP,3.3	
R1SD12	2001-000490	R-CARBON;200OHM,5%,1/8W,AA,TP,-	
R1SD31	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SD32	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,-	
R1SR01	2002-000320	R-COMPOSITION;1.8Mohm,10%,1/2W,AA,TP,3.5	
R1SR11	2003-000119	R-METAL OXIDE;0.68ohm,5%,2W,AE,TP,6x16mm	
R1SR12	2003-000314	R-METAL OXIDE;47ohm,5%,2W,AE,TP,6x16mm	
R1SR13	2003-000314	R-METAL OXIDE;47ohm,5%,2W,AE,TP,6x16mm	
R1SR14	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SR15	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,-	
R1SS11	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS12	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS13	2003-000148	R-METAL OXIDE;100OHM,5%,2W,AE,TP,6X16MM	
R1SS32	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R1SS33	2004-000869	R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm	
R1SS34	2004-000459	R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m	
VA1SS1	1405-001026	VARISTOR;470V,600A,9x7mm,TP	⚠
ZD1P01	0403-000390	DIODE-ZENER;UZP33B,33V,31.4-34.6V,1W,DO-	
ZD1P02	0403-000717	DIODE-ZENER;MTZJ5.1B,5.1V,4.94-5.2V,500m	
ZD1P03	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500	
ZD1P04	0403-001211	DIODE-ZENER;MTZJ12B,12V,11.44-12.03V,500	
ZD1SR1	0403-000571	DIODE-ZENER;UZP43B,43V,40-46V,1W,DO-41,T	

S.M.P.S./POWER PARTS (FREE Voltage-1)

Application Models :
SV-C151P/C142P/C141P/C123P/C122P/C106P
SV-C105P/C63P/C61P/C60P/C56P/C55P/C52P/C25P/22P

BD1SF1	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
BD1SF2	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
BD1SS1	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
BD1SS2	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
C1P101	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
C1P102	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C1P103	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm	
C1P104	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
C1P108	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C1P110	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm	
C1P112	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
C1P113	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C1P114	2203-001724	C-CERAMIC,CHIP;4.7nF,10%,50V	
C1SD02	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	
C1SD04	2201-000934	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,18x	
C1SD11	2401-001682	C-AL;82uF,20%,400V,GP,BK,22x25,10mm	
C1SD12	2201-000129	C-CERAMIC,DISC;100pF,10%,1KV,Y5P,TP,6x5,	
C1SF11	2301-000140	C-FILM,PEF;10nF,10%,630V,BK,16.5X9.5X5.7	
C1SF12	2401-000970	C-AL;22uF,20%,50V,WT,TP,5x11,5	
C1SF13	2201-000379	C-CERAMIC,DISC;22nF,+80-20%,50V,Y5V,TP,8	
C1SF14	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm	
C1SF15	2201-000379	C-CERAMIC,DISC;22nF,+80-20%,50V,Y5V,TP,8	
C1SS01	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
C1SS02	2201-000795	C-CERAMIC,DISC;10nF,10%,400V,Y5P,TP,15x1	⚠
C1SS03	2201-000808	C-CERAMIC,DISC;2.2nF,10%,400V,Y5U,TP,12x	
C1SS04	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	
C1SS31	2401-000385	C-AL;10uF,20%,100V,GP,TP,6.3x11,5	
C1SS32	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS33	2401-002162	C-AL;1000uF,20%,25V,WT,TP,10x20,5mm	
C1SS34	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS35	2401-003059	C-AL;1000uF,20%,16V,GP,TP,10x16,5mm	
C1SS36	2401-001479	C-AL;470uF,20%,10V,GP,-,-,TP	
C1SS39	2301-000129	C-FILM,PEF;100nF,5%,50V,10X9X4.3X5,5mm,T	

Loc.No	Part No	Description ; Specification	Remark
CN1SS1	3711-000178	CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA	
D1P101	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P103	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P104	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P105	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P106	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P107	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P108	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P109	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SD11	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SD31	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SS01	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS02	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS03	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS04	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS11	0402-000276	DIODE-RECTIFIER;UF4007,1KV,1A,DO-41,TP	
D1SS31	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SS32	0402-001194	DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP	
D1SS33	0402-000431	DIODE-RECTIFIER;FML-M02S,200V,2.5A,TO-22	
F1SD01	3601-000403	FUSE-FERRULE;250V,1.6A,SLOW-BLOW,GLASS,5	⚠
IC1SF1	1203-001049	IC-PWM CONTROLLER:1L0380,TO-220F,4P,10MI	⚠
IC1SS1	0604-001028	PHOTO-COUPLER;TR,50-600%,250mW,DIP-4,ST	⚠
IC1SS2	AC14-12006D	IC;KA431Z,TO-92,TAPING	⚠
L1P102	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L1SS01	AC29-30050C	FILTER-LINE NOISE;-,20mH,0.35A,AC250V,BS	⚠
L1SS31	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1SS32	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
PT1SD1	AC26-20120K	TRANS-SWITCHING;DP,100V-240V,DEMKO,EE282	⚠
Q1P101	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P102	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P104	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q1P105	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
Q1P106	0504-000116	TR-DIGITAL;KSR1001,NPN,300mW,4.7K-4.7K,T	
Q1P107	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P108	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q1P109	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R1P101	2001-000855	R-CARBON;560ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1P103	2001-000034	R-CARBON;220OHM,5%,1/4W,AA,TP,-	
R1P104	2001-000554	R-CARBON;270ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1P105	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,-	
R1P106	2001-000611	R-CARBON;3.9KOHM,5%,1/4W,AA,TP,-	
R1P107	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P108	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP	PCB No Marking
R1P108	2007-000493	R-CHIP;2.2KOHM,5%,1/10W,DA,TP,2012	PCB “A” Marking
R1P110	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SD11	2001-000076	R-CARBON;47Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1SD12	2001-000302	R-CARBON;10ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SD13	2001-000076	R-CARBON;47Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1SD14	2001-000076	R-CARBON;47Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1SD15	2001-000076	R-CARBON;47Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1SD31	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SD32	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,-	
R1SF10	2006-000262	R-CEMENT;2.7ohm,10%,2W,CB,ST,7.5x11x20.	
R1SS11	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS12	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS13	2003-000148	R-METAL OXIDE;100OHM,5%,2W,AE,TP,6X16MM	
R1SS32	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R1SS33	2004-000869	R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm	
R1SS34	2004-000459	R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m	
VA1SS1	1405-001026	VARISTOR;470V,600A,9x7mm,TP	⚠
ZD1P01	0403-000390	DIODE-ZENER;UZP33B,33V,31.4-34.6V,1W,DO-	
ZD1P02	0403-000717	DIODE-ZENER;MTZJ5.1B,5.1V,4.94-5.2V,500m	
ZD1P03	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500	
ZD1P05	0403-001211	DIODE-ZENER;MTZJ12B,12V,11.44-12.03V,500	
ZD1SF1	0403-001158	DIODE-ZENER;MTZJ18C,18V,17.42-18.33V,500	⚠
ZD1SF2	0403-000716	DIODE-ZENER;MTZJ4.7B,4.7V,4.55-4.8V,500m	⚠

Loc.No	Part No	Description ; Specification	Remark
S.M.P.S./POWER PARTS (FREE Voltage-2)			
Application Models : SV-C90P/C45P/C40P/C15P/SP-C15P			
BD1SF2	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
BD1SS1	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
C1P101	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
C1P102	2401-001479	C-AL;470uF,20%,10V,GP,-,-,TP	
C1P103	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C1P104	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C1P105	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C1P106	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C1P107	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C1P108	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C1P109	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C1P110	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C1SD02	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	
C1SD04	2201-000934	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,18x	
C1SD11	2401-001682	C-AL;82uF,20%,400V,GP,BK,22x25,10mm	
C1SD12	2201-000129	C-CERAMIC,DISC;100pF,10%,1KV,Y5P,TP,6x5,	
C1SF11	2301-000140	C-FILM,PEF;10nF,10%,630V,BK,16.5X9.5X5.7	
C1SF12	2401-000970	C-AL;22uF,20%,50V,WT,TP,5x11,5	
C1SF13	2201-000379	C-CERAMIC,DISC;22nF,+80-20%,50V,Y5V,TP,8	
C1SF14	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm	
C1SF15	2201-000379	C-CERAMIC,DISC;22nF,+80-20%,50V,Y5V,TP,8	
C1SS01	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
C1SS02	2201-000795	C-CERAMIC,DISC;10nF,10%,400V,Y5P,TP,15x1	⚠
C1SS03	2201-000808	C-CERAMIC,DISC;2.2nF,10%,400V,Y5U,TP,12x	
C1SS04	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	
C1SS31	2401-000385	C-AL;10uF,20%,100V,GP,TP,6.3x11,5	
C1SS32	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS33	2401-002162	C-AL;1000uF,20%,25V,WT,TP,10x20,5mm	
C1SS34	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS35	2401-003059	C-AL;1000uF,20%,16V,GP,TP,10x16,5mm	
C1SS36	2401-001479	C-AL;470uF,20%,10V,GP,-,-,TP	
C1SS39	2301-000129	C-FILM,PEF;100nF,5%,50V,10X9X4.3X5,5mm,T	
CN1SS1	3711-000178	CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA	
D1P101	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P102	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P103	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P105	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P106	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P107	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1SD11	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SD31	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SS01	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS02	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS03	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS04	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	⚠
D1SS11	0402-000276	DIODE-RECTIFIER;UF4007,1KV,1A,DO-41,TP	
D1SS31	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SS32	0402-001194	DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP	
D1SS33	0402-001194	DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP	
F1SD01	3601-000403	FUSE-FERRULE;250V,1.6A,SLOW-BLOW,GLASS,5	⚠
IC1SF1	1203-001049	IC-PWM CONTROLLER:1L0380,TO-220F,4P,10MI	⚠
IC1SS1	0604-001028	PHOTO-COUPLER;TR,50-600%,250mW,DIP-4,ST	⚠
IC1SS2	AC14-12006D	IC;KA431Z,TO-92,TAPING	⚠
L1P101	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L1P102	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L1SS01	AC29-30050C	FILTER-LINE NOISE;-,20mH,0.35A,AC250V,BS	⚠
L1SS31	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1SS32	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
PT1SD1	AC26-20120K	TRANS-SWITCHING;DP,100V-240V,DEMKO,EE282	⚠
Q1P101	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P102	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P103	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	

Loc.No	Part No	Description ; Specification	Remark
Q1P104	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q1P105	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
Q1P106	0504-000116	TR-DIGITAL;KSR1001,NPN,300mW,4.7K-4.7K,T	
Q1P107	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q1P108	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q1P109	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
R1P101	2001-000855	R-CARBON;560ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1P102	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1P103	2001-000034	R-CARBON;220OHM,5%,1/4W,AA,TP,-	
R1P104	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1P105	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,-	
R1P106	2001-000611	R-CARBON;3.9KOHM,5%,1/4W,AA,TP,-	
R1P107	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P108	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P111	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,-	
R1P112	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R1SD11	2001-000076	R-CARBON;47Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1SD12	2001-000302	R-CARBON;10ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SD13	2001-000076	R-CARBON;47Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1SD14	2001-000076	R-CARBON;47Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1SD15	2001-000076	R-CARBON;47Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1SD31	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SD32	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,-	
R1SF10	2006-000262	R-CEMENT;2.7ohm,10%,2W,CB,ST,7.5x11x20.	
R1SS11	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS12	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS13	2003-000148	R-METAL OXIDE;100OHM,5%,2W,AE,TP,6X16MM	
R1SS32	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R1SS33	2004-000869	R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm	
R1SS34	2004-000459	R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m	
VA1SS1	1405-001026	VARISTOR;470V,600A,9x7mm,TP	⚠
ZD1P01	0403-000390	DIODE-ZENER;UZP33B,33V,31.4-34.6V,1W,DO-	
ZD1P02	0403-000717	DIODE-ZENER;MTZJ5.1B,5.1V,4.94-5.2V,500m	
ZD1P03	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500	
ZD1P04	0403-001211	DIODE-ZENER;MTZJ12B,12V,11.44-12.03V,500	
ZD1SF1	0403-001158	DIODE-ZENER;MTZJ18C,18V,17.42-18.33V,500	⚠
ZD1SF2	0403-000716	DIODE-ZENER;MTZJ4.7B,4.7V,4.55-4.8V,500m	⚠
LOGIC PARTS			
C601	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C602	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C603	2203-000716	C-CERAMIC,CHIP;3.3nF,10%,50V,X7R,TP,2012	
C604	2203-001245	C-CERAMIC,CHIP;82pF,5%,50V,NPO,TP,2012,-	
C605	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m	
C606	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m	
C607	2203-001245	C-CERAMIC,CHIP;82pF,5%,50V,NPO,TP,2012,-	
C608	2203-001579	C-CERAMIC,CHIP;15nF,10%,50V,NPO,TP,2012,	
C609	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C610	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C611	2401-000922	C-AL;22uF,20%,16V,GP,TP,5x5,5	
C612	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C613	2203-000429	C-CERAMIC,CHIP;18pF,5%,50V,NPO,TP,2012,-	
C614	2203-000925	C-CERAMIC,CHIP;470nF,+80-20%,50V,Y5V,TP,	
C615	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
C616	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C617	2202-000216	C-CERAMIC,MLC-AXIAL;.027NF,5%,50V,SL,TP,	
C618	2203-000683	C-CERAMIC,CHIP;27pF,5%,50V,NPO,TP,2012,-	
C619	2203-000683	C-CERAMIC,CHIP;27pF,5%,50V,NPO,TP,2012,-	
C620	2203-000389	C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,2012,-	
C621	2203-000389	C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,2012,-	
C622	2203-000389	C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,2012,-	
C623	2203-000389	C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,2012,-	
C624	2203-000389	C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,2012,-	
C625	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C626	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C627	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	

Loc.No	Part No	Description ; Specification	Remark
C628	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
C629	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C632	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C634	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C636	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C637	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C638	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C640	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C641	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012,	
C647	2203-000727	C-CERAMIC,CHIP;3.9nF,10%,50V,X7R,TP,2012	
C648	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012,	
C650	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C651	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C655	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C656	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C657	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C658	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C663	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C668	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C670	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C673	2203-000444	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
C675	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012,	
CN601	AC39-20817S	LEAD CONNECTOR-ASSY;DP,SMH200-02,YBH200-	
CN604	3711-003749	CONNECTOR-HEADER;BOX,8P,2R,2mm,STRAIGHT,	
CN605	3708-001163	CONNECTOR-FPC/FC/PIC;5P,1.25mm,STRAIGHT,	
D602	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D603	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D604	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D605	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
IC601	AC09-00001A	IC-MCU;HD6433977RF-02,100P,-,-,-	
IC602	1003-001162	IC-MOTOR DRIVER;KA3082,SIP,10PIN,25MIL,D	
IC603	1103-001020	IC-EEPROM;24LC04,2x256Kx8BIT,DIP,8P,300M	VCR PLUS+ Only
IC603	AC11-12001H	IC-EEPROM;24LC02B/P,DIP,-	
IC605	AC14-12001G	IC;KA78L05	
J007	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
L601	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L602	2701-000131	INDUCTOR-AXIAL;15uH,5%,2.4x3.4mm	
L603	2701-000145	INDUCTOR-AXIAL;1UH,5%,2.4X3.4MM	
LD601	0601-000517	LED-IR;RECTANGULA,4x6.0mm,75mW,6V,950	
PT601	0604-001122	PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4,	
PT602	0604-001122	PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4,	
Q601	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R601	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
R604	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R605	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R606	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R608	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R609	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R6100	2007-000738	R-CHIP;30KOHM,5%,1/10W,DA,TP,2012	
R6111	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R612	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R613	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6138	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	4H'D/HI-FI Only
R614	2007-000380	R-CHIP;13KOHM,5%,1/10W,DA,TP,2012	
R6141	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R6144	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,-	
R6147	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	FRONT-A/V Only
R615	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R6150	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,-	
R616	2007-001039	R-CHIP;56KOHM,5%,1/10W,DA,TP,2012	
R620	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R621	2007-001201	R-CHIP;820OHM,5%,1/10W,DA,TP,2012	
R622	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,-	
R623	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R624	2001-000773	R-CARBON;470Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R625	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,-	

Loc.No	Part No	Description ; Specification	Remark
R626	2007-000290	R-CHIP;100OHM,5%,1/10W,DA,TP,2012	
R627	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R628	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R629	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R630	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R631	2001-000435	R-CARBON;1Mohm,5%,1/8W,AA,TP,1.8x3.2mm	
R632	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R633	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R635	2001-000837	R-CARBON;51Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R636	2001-000837	R-CARBON;51Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R641	2007-000477	R-CHIP;1MOHM,5%,1/10W,DA,TP,2012	
R643	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R653	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R655	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R660	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R661	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R663	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R664	2007-000738	R-CHIP;30KOHM,5%,1/10W,DA,TP,2012	
R666	2007-000001	R-CHIP;68KOHM,5%,1/10W,DA,TP,2012	
R667	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R669	2007-001039	R-CHIP;56KOHM,5%,1/10W,DA,TP,2012	
R671	2001-000802	R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R672	2003-000259	R-METAL OXIDE;3.9OHM,5%,2W,AE,TP,6X16MM	
R673	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R674	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R675	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R676	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R677	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R678	2001-000577	R-CARBON;2Kohm,5%,1/8W,AA,TP,1.8x3.2mm	HI-FI Only
R679	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	HI-FI Only
R680	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R681	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R682	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R684	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R685	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R686	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R687	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R688	2007-000449	R-CHIP;180OHM,5%,1/10W,DA,TP,2012	
R691	2001-000708	R-CARBON;39ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R694	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	
S601	0603-001011	PHOTO-TR;NPN,35V,6V,50mA,75mW,BK	
S602	0603-001011	PHOTO-TR;NPN,35V,6V,50mA,75mW,BK	
SW602	AC34-20100B	SWITCH-REC;-,-,X-9,-	
SW603	AC34-20100A	SWITCH-MODE;-,-,X-9,-	
XT601	2801-001384	CRYSTAL-UNIT;14.31818MHz,30ppm,28-AAA,16	
XT602	2801-003318	CRYSTAL-UNIT;32.768KHz,20ppm,28-AAP,12.5	
XT603	2801-003293	CRYSTAL-UNIT;10MHz,50ppm,28-AAA,16pF,50o	
AUDIO/VIDEO PARTS			
C301	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C302	2401-002095	C-AL;47uF,20%,25V,GP,TP,6.3x5,5mm	
C303	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C304	2203-001721	C-CERAMIC,CHIP;360pF,5%,50V,NPO,TP,2012,	
C305	2401-001250	C-AL;4.7uF,20%,35V,GP,TP,4x5,5	
C306	2203-000408	C-CERAMIC,CHIP;180pF,5%,50V,NPO,TP,2012,	
C307	2203-000818	C-CERAMIC,CHIP;33pF,5%,50V,NPO,TP,2012,-	
C308	2203-001579	C-CERAMIC,CHIP;15nF,10%,50V,NPO,TP,2012,	
C309	2401-000922	C-AL;22uF,20%,16V,GP,TP,5x5,5	
C310	2401-000407	C-AL;10uF,20%,16V,GP,TP,3.5x5,2.5	
C311	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C312	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C313	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012,	
C314	2401-000407	C-AL;10uF,20%,16V,GP,TP,3.5x5,2.5	
C315	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C316	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C317	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C318	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C319	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C320	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C321	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C322	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C323	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C324	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
C325	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C326	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C327	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012,	
C329	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C330	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C331	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C332	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C333	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C334	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012,	
C335	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012,	
C336	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C337	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C338	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m	
C339	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
C340	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C341	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C342	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C343	2203-001724	C-CERAMIC,CHIP;4.7uF,79.8,16V,Y5V,TP,321	
C344	2203-001214	C-CERAMIC,CHIP;8.2nF,10%,50V,X7R,TP,2012	
C345	2301-001014	C-FILM,PEF;6.8nF,5%,50V,TP,7x3x6,5mm	
C346	2203-001105	C-CERAMIC,CHIP;6.8nF,10%,50V,X7R,TP,2012	
C347	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
C348	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012,	
C349	2203-001077	C-CERAMIC,CHIP;56pF,5%,50V,NPO,TP,2012,-	
C350	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C351	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C352	2301-000253	C-FILM,PEF;39NF,5%,100V,TP,7.5X4.5X12.5M	
C353	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C356	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C357	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m	
C358	2203-000495	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,2012	
C359	2203-000444	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
C360	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C361	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	ULP Only
C361	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	Non-ULP Only
C362	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C363	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	4H'D/HI-FI Only
C364	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C365	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C366	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C370	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C371	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C373	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	4H'D/HI-FI Only
CN301	3708-000391	CONNECTOR-FPC/FC/PIC;10P,1.25MM,STRAIGHT	HI-FI Only
CN301	3708-000395	CONNECTOR-FPC/FC/PIC;8P,1.25MM,	4H'D/2H'D Only
CN302	3711-002445	CONNECTOR-HEADER;BOX,2P,2R,1.5MM,STRAIGH	
CN303	3708-001302	CONNECTOR-FPC/FC/PIC;7P,1.25mm,STRAIGHT,	
D301	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D302	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D307	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	2H'D Only
FL301	AC27-80100C	COIL-OSC;7mm,2.4mH,-	
IC301	1204-001476	IC-VIDEO PROCESS;LA71072M,QFP,100P,-,PLA	
L301	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L302	2702-000108	INDUCTOR-RADIAL;100uH,5%,6x6.4mm	
L303	2702-000108	INDUCTOR-RADIAL;100uH,5%,6x6.4mm	
L304	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L305	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L306	2702-000120	INDUCTOR-RADIAL;15mH,5%,6.2x7.4mm	
L307	2702-000108	INDUCTOR-RADIAL;100uH,5%,6x6.4mm	

◆ **ULP : ULTRA LONG PLAY**

Loc.No	Part No	Description ; Specification	Remark
Q301	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q302	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q303	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q304	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q305	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q306	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q307	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q308	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q310	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO	4H'D/HI-FI Only
Q311	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO	4H'D/HI-FI Only
Q3201	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO-	2H'D Only
R301	2007-000671	R-CHIP;2KOHM,5%,1/10W,DA,TP,2012	
R302	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R303	2007-000241	R-CHIP;1.5KOHM,5%,1/10W,DA,TP,2012	
R304	2007-000653	R-CHIP;27KOHM,5%,1/10W,DA,TP,2012	
R305	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,-	
R306	2007-000941	R-CHIP;47KOHM,5%,1/10W,DA,TP,2012	
R307	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R309	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R310	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
R311	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	4H'D/HI-FI Only
R313	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R314	2007-001195	R-CHIP;820KOHM,5%,1/10W,DA,TP,2012	
R315	2007-000241	R-CHIP;1.5KOHM,5%,1/10W,DA,TP,2012	
R316	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R317	2007-000241	R-CHIP;1.5KOHM,5%,1/10W,DA,TP,2012	
R318	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
R320	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R326	2001-000454	R-CARBON;2.2Mohm,5%,1/8W,AA,TP,1.8x3.2m	
R327	2007-000844	R-CHIP;3KOHM,5%,1/10W,DA,TP,2012	HI-FI Only
R327	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	M0N0 Only
R329	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
R330	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,-	
R331	2001-000878	R-CARBON;6.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R332	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R333	2007-001092	R-CHIP;620OHM,5%,1/10W,DA,TP,2012	
R334	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R335	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R336	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R337	2007-000502	R-CHIP;2.2OHM,5%,1/10W,DA,TP,2012	
R338	2001-000405	R-CARBON;180ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R339	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R340	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R341	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R342	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R344	2001-000331	R-CARBON;12KOHM,5%,1/8W,AA,TP,-	
R345	2007-000449	R-CHIP;180OHM,5%,1/10W,DA,TP,2012	
R346	2007-000774	R-CHIP;33KOHM,5%,1/10W,DA,TP,2012	
R347	2007-000024	R-CHIP;1.3KOHM,5%,1/10W,DA,TP,2012	
R348	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
R349	2007-001001	R-CHIP;510OHM,5%,1/10W,DA,TP,2012	
R350	2007-001001	R-CHIP;510OHM,5%,1/10W,DA,TP,2012	4H'D/HI-FI Only
R351	2007-000844	R-CHIP;3KOHM,5%,1/10W,DA,TP,2012	
R352	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
R353	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R354	2007-000754	R-CHIP;330KOHM,1%,1/10W,DA,TP,2012	
R355	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	ULP Only
R356	2007-000565	R-CHIP;220KOHM,5%,1/10W,DA,TP,2012	
R357	2007-000565	R-CHIP;220KOHM,5%,1/10W,DA,TP,2012	
R358	2001-000008	R-CARBON;15Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R359	2007-000738	R-CHIP;30KOHM,5%,1/10W,DA,TP,2012	
R360	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R361	2007-000964	R-CHIP;5.1KOHM,5%,1/10W,DA,TP,2012	
R362	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R367	2001-000689	R-CHIP;3.3KOHM,5%,1/10W,DA,TP,2012	
R397	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R399	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
XT301	2801-003610	CRYSTAL-UNIT;3.579545MHz,8ppm,28-AAA,S,1	
TM BLOCK			
C401	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C405	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C406	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C407	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012,	
C409	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C410	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012,	
R401	2007-001201	R-CHIP;820OHM,5%,1/10W,DA,TP,2012	
R402	2007-001201	R-CHIP;820OHM,5%,1/10W,DA,TP,2012	
R404	2007-000338	R-CHIP;120KOHM,5%,1/10W,DA,TP,2012	
SW401	3408-001042	SWITCH-SLIDE;DC 12V,100mA,-,OFF-ON,-	
TM401	AC40-30071X	TM-BLOCK;115-V-D005AT,NTSC,105CH	
HI-FI/MTS PARTS (HI-FI MODEL ONLY)			
C4M01	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C4M02	2203-001035	C-CERAMIC,CHIP;5.6nF,10%,50V,X7R,TP,2012	
C4M03	2203-000323	C-CERAMIC,CHIP;12NF,10%,50V,X7R,TP,2012,	
C4M04	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C4M06	2401-000407	C-AL;10uF,20%,16V,GP,TP,3.5x5,2.5	
C4M07	2203-001724	C-CERAMIC,CHIP;4.7uF,79.8,16V,Y5V,TP,321	
C4M08	2203-001724	C-CERAMIC,CHIP;4.7uF,79.8,16V,Y5V,TP,321	
C4M09	2401-001250	C-AL;4.7uF,20%,35V,GP,TP,4x5,5	
C4M10	2203-001724	C-CERAMIC,CHIP;4.7uF,79.8,16V,Y5V,TP,321	
C4M11	2301-000408	C-FILM,PEF;2.7nF,5%,50V,TP,5.5x7x3mm,5mm	
C4M12	2301-000283	C-FILM,PEF;47nF,5%,100V,TP,7.3X7X3.2X5,5	
C4M13	2401-001020	C-AL;3.3uF,20%,50V,GP,TP,4x7,5	
C4M14	2203-001724	C-CERAMIC,CHIP;4.7uF,79.8,16V,Y5V,TP,321	
C4M15	2401-000407	C-AL;10uF,20%,16V,GP,TP,3.5x5,2.5	
C4M16	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C4M17	2401-001507	C-AL;47uF,20%,16V,GP,TP,6.3x5,5	
C4M18	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C4M19	2401-002075	C-AL;4.7uF,20%,50V,GP,TP,5x11,5	
C501	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C502	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C503	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C504	2401-002299	C-AL;4.7uF,20%,50V,GP,TP,5x7,5	
C505	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C506	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m	
C507	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m	
C508	2203-000891	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,2012	
C509	2203-000716	C-CERAMIC,CHIP;3.3nF,10%,50V,X7R,TP,2012	
C510	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C511	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C512	2203-001665	C-CERAMIC,CHIP;560pF,10%,50V,X7R,TP,2012	
C513	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C514	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C515	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C516	2203-000716	C-CERAMIC,CHIP;3.3nF,10%,50V,X7R,TP,2012	
C517	2203-000891	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,2012	
C518	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C519	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C520	2203-001724	C-CERAMIC,CHIP;4.7uF,79.8,16V,Y5V,TP,321	
C521	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m	
C522	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C523	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C524	2401-001250	C-AL;4.7uF,20%,35V,GP,TP,4x5,5	
C525	2401-001250	C-AL;4.7uF,20%,35V,GP,TP,4x5,5	
C526	2401-001507	C-AL;47uF,20%,16V,GP,TP,6.3x5,5	
C527	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C530	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C531	2203-002793	C-CERAMIC,CHIP;1uF,+80-20%,25V,Y5V,TP,20	
C532	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C570	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	

Loc.No	Part No	Description ; Specification	Remark
C570	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
IC4M01	1209-001116	IC-ETC, LINEAR;CXA2104S,DIP,30P,-,PLASTI	
IC501	1204-001479	IC-AUDIO PROCESSOR;LA72634AM,QFP,64P,400	
L4M01	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L501	2702-000108	INDUCTOR-RADIAL;100uH,5%,6x6.4mm	
L502	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
R4M01	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R4M04	2007-000477	R-CHIP;1MOHM,5%,1/10W,DA,TP,2012	
R4M05	2007-001097	R-CHIP;62Kohm,5%,1/10W,DA,TP,2012	
R4M06	2007-000686	R-CHIP;3.3KOHM,5%,1/10W,DA,TP,2012	
R4M07	2007-000844	R-CHIP;3KOHM,5%,1/10W,DA,TP,2012	
R4M08	2007-000710	R-CHIP;3.9KOHM,5%,1/10W,DA,TP,2012	
R4M13	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
R501	2007-000774	R-CHIP;33KOHM,5%,1/10W,DA,TP,2012	
R502	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R503	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R504	2007-000844	R-CHIP;3KOHM,5%,1/10W,DA,TP,2012	
R505	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R506	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R507	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,-	
R509	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R510	2001-000766	R-CARBON;43Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R514	2007-000941	R-CHIP;47KOHM,5%,1/10W,DA,TP,2012	
R515	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R516	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R517	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
R518	2001-000766	R-CARBON;43Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R521	2001-000331	R-CARBON;12KOHM,5%,1/8W,AA,TP,-	
R522	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R523	2007-000565	R-CHIP;220KOHM,5%,1/10W,DA,TP,2012	
R524	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
R525	2007-000671	R-CHIP;2KOHM,5%,1/10W,DA,TP,2012	
VR4M01	2103-000171	VR-SEMI;10Kohm,30%,1/10W,TOP	

INPUT-OUTPUT PARTS

C801	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C802	2401-001479	C-AL;470uF,20%,10V,GP,-,-,TP	
C803	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C804	2203-000274	C-CERAMIC,CHIP;10pF,0.25pF,50V,NPO,TP,20	
C805	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
JK801	Refer to table below	JACK-RCA	

Part No.	Specification	Application Models
AC37-20001G	DPAE-,6P,HIFI,PI3.3	VR8809/8709/8609/8509 VR8809C/8769C/8719C/8609C/8509C SV-C120UM/C100UP/C141P/C106P SV-C151P/C123P/C105P/C142P/C122P
AC37-20001H	DPAM-,4P,MONO,PI3.3	VR5709/5609/5509/3609 VR5809C/5709C/5609C/5509C/3609C SV-C70UM/C60UM/C60P/C50UP/C61P SV-C56P/C63P/C52P/C22P/C55P/C25P
AC67-22002N	3.2mm,DPAE-9836,3P(1),HIFI	VR8459/8409/8459C/8409C SV-C95UM/C90P
AC37-22002P	3.2mm,DPAM-9837,2P(1),MONO	VR5459/5409/3409/5459C/5409C/3409C SV-C45UM/C45P/C40P/SP-C15P
AC37-22002M	3.2mm,DPAM-9837,4P(1),MONO	SV-C15P

L801	2701-000168	INDUCTOR-AXIAL;3.3uH,5%,2.5x3.4mm	
L802	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
Q801	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
R801	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R802	2001-000025	R-CARBON;75ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R803	2007-001239	R-CHIP;910OHM,5%,1/10W,DA,TP,2012	
R804	2007-001166	R-CHIP;75OHM,5%,1/10W,DA,TP,2012	
C8M2	2203-000802	C-CERAMIC,CHIP;33nF,10%,50V,X7R,TP,2012,	MONO Only
R8M1	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	MONO Only
R8M2	2001-001015	R-CARBON;9.1Kohm,5%,1/8W,AA,TP,1.8x3.2m	MONO Only
R8M3	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	MONO Only
R8M6	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	MONO Only

FUNCTION KEY MATRIX

D703	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D704	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D705	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D706	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D707	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D708	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D709	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
R741	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R744	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,-	
R745	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	FRONT-A/V Only
R751	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
SW701	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW702	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW703	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW704	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW705	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW706	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW707	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW708	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW709	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW710	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW711	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW712	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW713	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW714	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW715	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW716	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW717	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	

EDS PARTS

C6E01	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C6E02	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C6E03	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm	
C6E04	2202-000791	C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP	
C6E07	2202-000173	C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,1	
C6E08	2401-000661	C-AL;2.2uF,20%,50V,GP,TP,5x11,5	
C6E09	2202-000791	C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP	
C6E10	2202-000791	C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP	
D6E01	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
IC6E1	AC14-12013U	IC-LINEAR;LC7455D,DIP,STICK	
R6E01	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R6E02	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R6E06	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R6E07	2001-000435	R-CARBON;1Mohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6E08	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,-	
R6E09	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
XT6E1	2802-000209	RESONATOR-CERAMIC;508KHz,2KHz,BK,7.0x3.5	

ULTRA LONG PLAY (ULP) PARTS

C6X01	2202-000222	C-CERAMIC,MLC-AXIAL;3.3nF,20%,16V,Y5P,TP	
C6X02	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C6X03	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C6X04	2203-000222	C-CERAMIC,CHIP;100nF,20%,50V,Z5U,TP,2012	
C6X05	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C6X06	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
D6X02	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D6X05	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D6X06	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
IC6X1	0801-000138	IC-CMOS LOGIC;4053,MUTIPLEXER,DIP,16P,30	
Q6X01	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO-	
Q6X02	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO-	

Loc.No	Part No	Description ; Specification	Remark
Q6X03	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO-	
Q6X04	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO-	
Q6X05	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
R6X01	2001-001035	R-CARBON;91ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6X02	2001-001035	R-CARBON;91ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6X04	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6X05	2007-000607	R-CHIP;240OHM,5%,1/10W,DA,TP,2012	
R6X06	2007-000766	R-CHIP;330OHM,5%,1/10W,DA,TP,2012	
R6X07	2007-001149	R-CHIP;750Kohm,5%,1/10W,DA,TP,2012	
R6X08	2007-000653	R-CHIP;27KOHM,5%,1/10W,DA,TP,2012	
R6X09	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R6X10	2001-000411	R-CARBON;18KOHM,5%,1/8W,AA,TP,-	
R6X11	2007-000409	R-CHIP;15KOHM,5%,1/10W,DA,TP,2012	
R6X12	2007-001247	R-CHIP;91OHM,5%,1/10W,DA,TP,2012	ULP Only
R6X12	2007-000023	R-CHIP;120OHM,5%,1/10W,DA,TP,2012	Non-ULP Only
R6X13	2007-001247	R-CHIP;91OHM,5%,1/10W,DA,TP,2012	ULP Only
R6X13	2007-000023	R-CHIP;120OHM,5%,1/10W,DA,TP,2012	Non-ULP Only
R6X14	2007-000477	R-CHIP;1MOHM,5%,1/10W,DA,TP,2012	ULP Only
R6X14	2007-001149	R-CHIP;750Kohm,5%,1/10W,DA,TP,2012	Non-ULP Only
R6X15	2001-000009	R-CARBON;20KOHM,5%,1/8W,AA,TP,-	
R6X16	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,-	
R6X17	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
BACK-UP (1-Minutes)			
C6B01	2401-000199	C-AL;1000uF,20%,6.3V,GP,TP,10x12.5,	
D6B02	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
IC6B1	AC14-12006C	IC;KA7533,DIP,-	
R6B01	2001-000458	R-CARBON;2.2ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6B02	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R6B07	2007-000498	R-CHIP;2.2MOHM,5%,1/10W,DA,TP,2012	
BACK-UP (6-Hours)			
C6B01	2401-002259	C-AL;0.1F,+80-20%,5.5V,-,TP,12.5x11	
D6B02	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
IC6B1	AC14-12009W	IC-RESET;PST572K,TO-92,R59-1766 2.5V	
R6B01	2001-000568	R-CARBON;27ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6B02	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R6B05	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,-	
R6B07	2007-000498	R-CHIP;2.2MOHM,5%,1/10W,DA,TP,2012	
SW6B1	3404-000135	SWITCH-TACT;12V,50mA,160+-50gf,7.4x7.1mm	
CBC PARTS			
C6C01	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
C6C02	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
L6C02	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
Q6C01	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,800mW,TO-92,	
Q6C03	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
R6C01	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R6C02	2001-000577	R-CARBON;2Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6C03	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R6C04	2001-000598	R-CARBON;3.3ohm,5%,1/8W,AA,TP,1.8x3.2mm	
CBC/SHUTTLE			
C705	2401-002036	C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm	
CN6CS1	3708-001163	CONNECTOR-FPC/FC/PIC;5P,1.25mm,STRAIGHT,	
CN6CS2	3708-001164	CONNECTOR-FPC/FC/PIC;5P,1.25MM,ANGLE,SN	
LD6C1	0601-001204	LED-IR;ROUND,4.9mm,140mw,5V,940mm	
R742	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	Non-SHUTTLE Only
R743	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	Non-SHUTTLE Only
SH6S1	2101-000101	VR-ROTARY;100Kohm,20%,1/10W,SIDE	
FRONT A/V PARTS (ONLY FOR HI-FI MODEL)			
C8F1	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C8F2	2401-000407	C-AL;10uF,20%,16V,GP,TP,3.5x5,2.5	
CN701	3711-004013	CONNECTOR-HEADER;3WALL,10P,1R,2mm,STRAIG	
CN702	3710-001385	CONNECTOR-SOCKET;10P,1R,2mm,ANGLE,SN	
JK701	AC37-22002G	JACK-PIN;3.2mm,DPSE-9813,3P,13mm,ARREY	
R8HF1	2001-000766	R-CARBON;43Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R8HF2	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R8HF3	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
R8HF4	2001-000766	R-CARBON;43Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
FRONT A/V PARTS (ONLY FOR MONO MODEL)			
C8F1	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C8F2	2401-000407	C-AL;10uF,20%,16V,GP,TP,3.5x5,2.5	
CN701	3711-004013	CONNECTOR-HEADER;3WALL,10P,1R,2mm,STRAIG	
CN702	3710-001385	CONNECTOR-SOCKET;10P,1R,2mm,ANGLE,SN	
JK701	AC37-22002J	JACK-PIN;3.2mm,DPSE-9814,2P,13mm,S/W	
R8MF1	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R8MF2	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
-	-	**LED-MODULE**	
C701	2202-000173	C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,1	
C702	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C703	2401-002008	C-AL;100uF,20%,16V,GP,TP,6.3x11,2.5	
CN703	3711-004012	CONNECTOR-HEADER;NOWALL,16P,1R,2.5mm,ANG	
D701	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D702	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
DT701	0703-001036	DISPLAY-LED;GRN,5digit,8seg,46x21x20mm	
Q701	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q702	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q703	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q704	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q705	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q706	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q707	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q708	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q709	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q710	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q711	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q712	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q713	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
R701	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R702	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R703	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R704	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R705	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R706	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R707	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R708	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R709	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R710	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R711	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R712	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R713	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R714	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R715	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R716	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R717	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R719	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R721	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R723	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R725	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R727	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
RM701	AC59-60060A	MODULE-REMOCON;GP1U281R,SHARP,38KHZ,-,-,	
-	-	**LED-LAMP**	
D701	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D702	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
C7L01	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
C7L02	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	

Loc.No	Part No	Description ; Specification	Remark
C7L03	2202-000173	C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,1	
CN7L01	3711-004012	CONNECTOR-HEADER;NOWALL,16P,1R,2.5mm,ANG	
D7L01	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
LD7L01	0601-001203	LED;ROUND,RED,3.3mm,700nm	
LD7L02	0601-000497	LED;ROUND,GRN,3.1mm,565nm	
LD7L03	0601-000497	LED;ROUND,GRN,3.1mm,565nm	
LD7L04	0601-000497	LED;ROUND,GRN,3.1mm,565nm	
LD7L05	0601-000497	LED;ROUND,GRN,3.1mm,565nm	
LD7L06	0601-000497	LED;ROUND,GRN,3.1mm,565nm	
LD7L07	0601-001203	LED;ROUND,RED,3.3mm,700nm	
Q7L01	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q7L02	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q7L03	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q7L04	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q7L05	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q7L06	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q7L07	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R7L01	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R7L02	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R7L03	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R7L04	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R7L05	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R7L06	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R7L07	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,-	
R7L08	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R7L09	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R7L10	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R7L11	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R7L12	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R7L13	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R7L14	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R7L15	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
RM701	AC59-60060A	MODULE-REMOCON;GP1U281R,SHARP,38KHZ,-,-,	

Loc.No	Part No	Description ; Specification	Remark
-		Refer to table below **REMOCON-ASSY**	

Country	Models	Part No.	Universal Remote
U.S.A.	VR8809	AC59-00003B	YES
	VR8709	AC59-00003A	YES
	VR8609	AC59-00003A	YES
	VR8509	AC59-00004A	NO
	VR8459	AC59-10420H	NO
	VR8409	AC59-10420H	NO
	VR5709	AC59-00003A	YES
	VR5609	AC59-00003A	YES
	VR5509	AC59-00004A	NO
	VR5459	AC59-10420H	NO
	VR5409	AC59-10420H	NO
	VR3609	AC59-00003A	YES
	VR3409	AC59-10420H	NO
CANADA	VR8809C	AC59-00003B	YES
	VR8769C	AC59-00003B	YES
	VR8719C	AC59-00003B	YES
	VR8609C	AC59-00003A	YES
	VR8509C	AC59-00004A	NO
	VR8459C	AC59-10420H	NO
	VR8409C	AC59-10420H	NO
	VR5809C	AC59-00003B	YES
	VR5709C	AC59-00003A	YES
	VR5609C	AC59-00003A	YES
	VR5509C	AC59-00004A	NO
	VR5459C	AC59-10420H	NO
	VR5409C	AC59-10420H	NO
	VR3609C	AC59-00003A	YES
	VR3409C	AC59-10420H	NO
MEXICO	SV-C120UM	AC59-10419D	YES
	SV-C95UM	AC59-10420F	NO
	SV-C70UM	AC59-10419D	YES
	SV-C60UM	AC59-10419E	NO
	SV-C45UM	AC59-10420F	NO
PANAMA	SV-C100UP	AC59-10419E	NO
	SV-C60P	AC59-10419D	YES
	SV-C50UP	AC59-10419E	NO
CHILE	SV-C141P	AC59-10419D	YES
	SV-C61P	AC59-10419D	YES
	SV-C106P	AC59-10419E	NO
	SV-C56P	AC59-10419E	NO
PERU	SV-C151P	AC59-10419D	YES
	SV-C45P	AC59-10420F	NO
BOLIVIA	SV-C123P	AC59-10419D	YES
	SV-C63P	AC59-10419D	YES
PHILIPPINESS	SV-C105P	AC59-10419E	NO
	SV-C55P	AC59-10419E	NO
	SV-C25P	AC59-10419E	NO
	SV-C15P	AC59-10420E	NO
	SP-C15P	AC59-10420D	NO
AAFES	SV-C142P	AC59-10419D	YES
	SV-C122P	AC59-10419E	NO
	SV-C90P	AC59-10420F	NO
	SV-C52P	AC59-10419E	NO
	SV-C40P	AC59-10420F	NO
	SV-C22P	AC59-10419E	NO

MEMO

5. Schematic Diagrams

◆ Block Identification of Main PCB - 5-2

5-1 S.M.P.S./Power (120 Voltage - 1) - 5-3

5-2 S.M.P.S./Power (120 Voltage - 2) - 5-4

5-3 S.M.P.S./Power (Free Voltage - 1) - 5-5

5-4 S.M.P.S./Power (Free Voltage - 2) - 5-6

5-5 Logic - 5-7

5-6 Audio/Video - 5-8

5-7 Hi-Fi/MTS - 5-9

5-8 TM-Block/Input-Output - 5-10

5-9 Display - 5-11

5-10 Remote-Control (Multi-TV) - 5-12

5-11 Remote-Control (VCR Only) - 5-13

SCHEMATICS	APPLICATION MODELS
S.M.P.S./Power (120 Voltage-1)	VR8809/8709/8609/8509/5709/5609/5509/3609 VR8809C/8769C/8719C/8609C/8509C/5809C/5709C/5609C/5509C/3609C SV-C120UM/C70UM/C60UM/C100UP/C50UP
S.M.P.S./Power (120 Voltage-2)	VR8459/8409/5459/5409/3409/8459C/8409C/5459C/5409C/3409C SV-C95UM/C45UM
S.M.P.S./Power (Free Voltage-1)	SV-C151P/C142P/C141P/C123P/C122P/C106P SV-C105P/C63P/C61P/C60P/C56P/C55P/C52P/C25P/22P
S.M.P.S./Power (Free Voltage-2)	SV-C90P/C45P/C40P/C15P/SP-C15P

Note

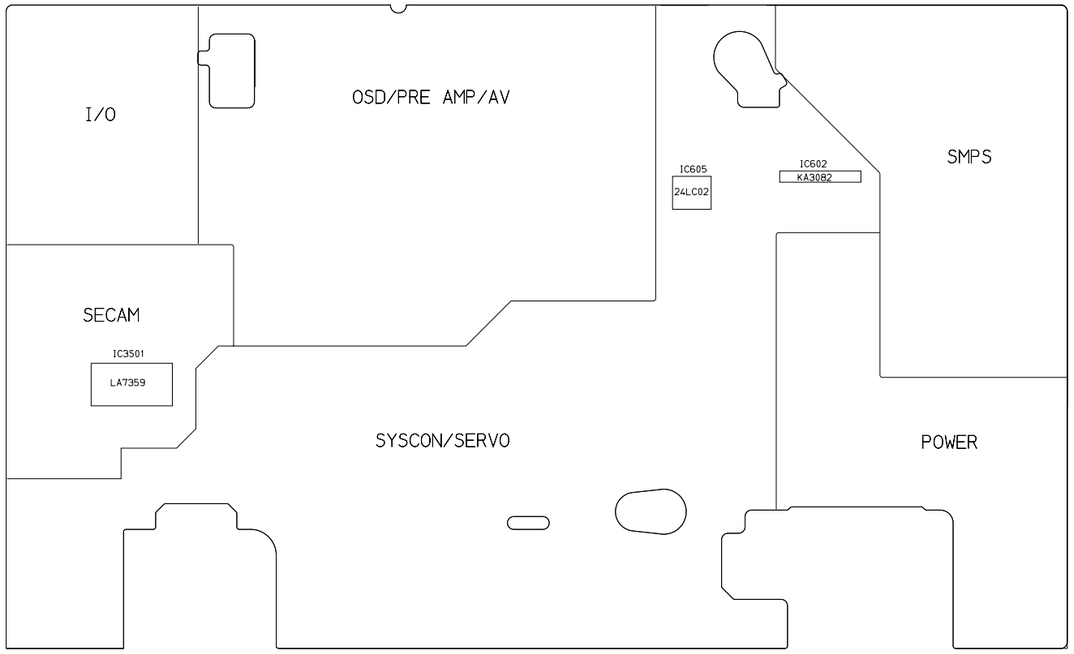
For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.

Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

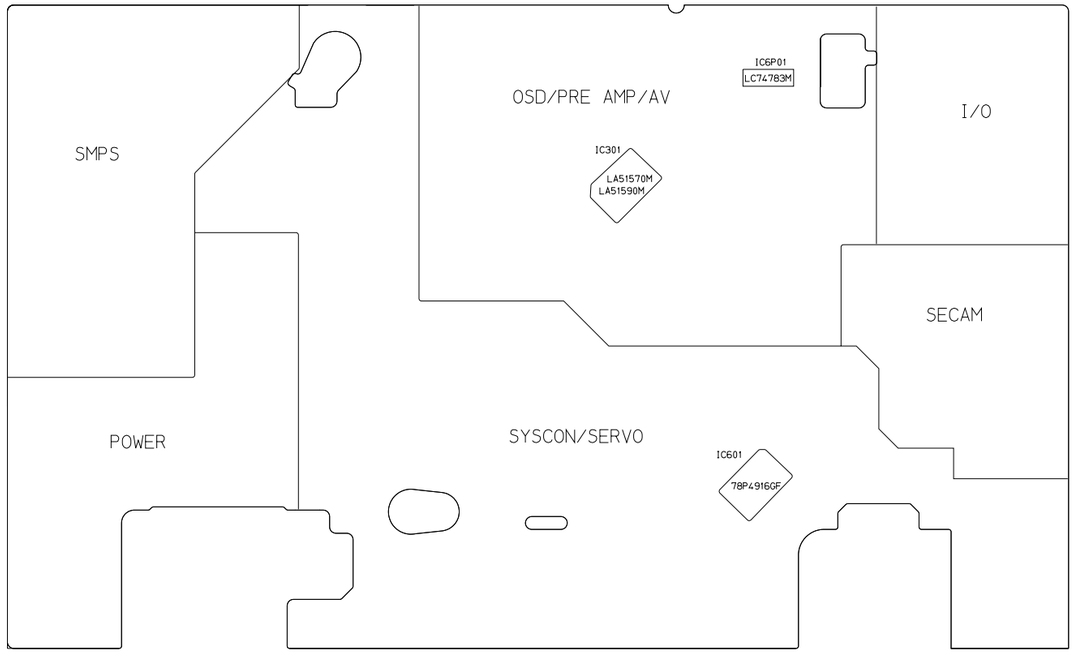
Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components.
Use only the same type.

◆ Block Identification of Main PCB



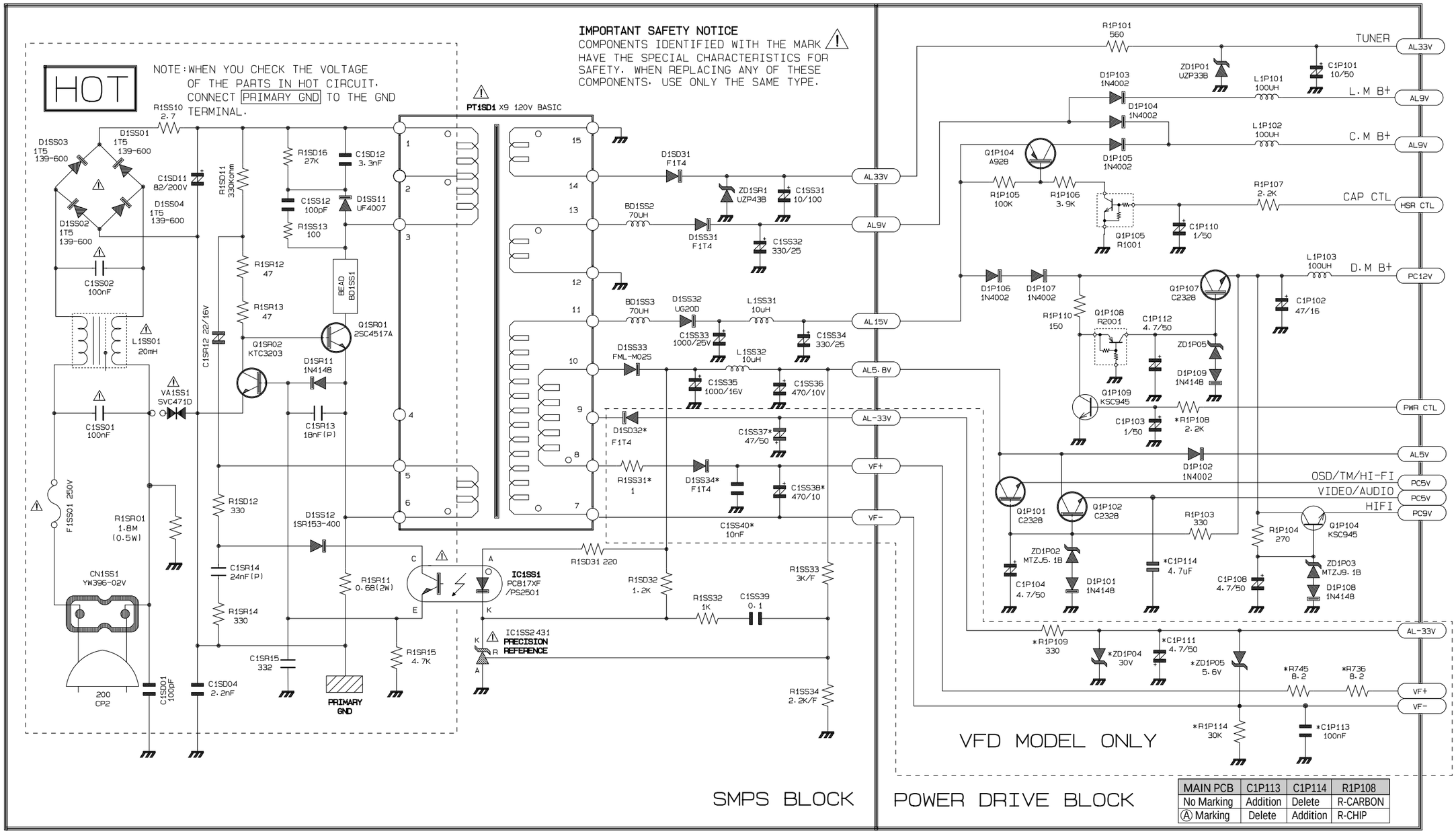
Component Side



Conductor Side

5-1 S.M.P.S./Power (120 Voltage - 1)

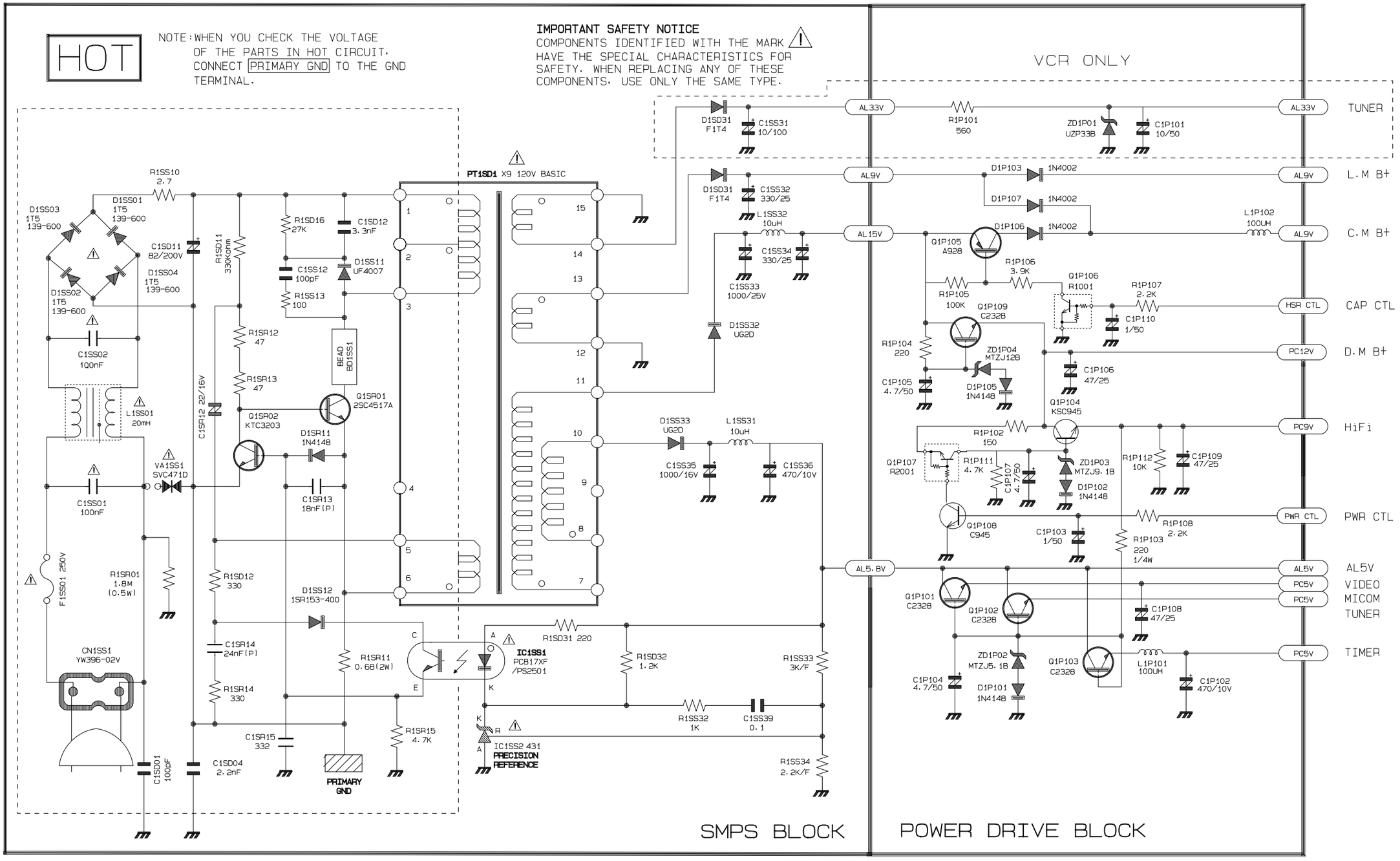
Application Models ; VR8809/8709/8609/8509/5709/5609/5509/3609/8809C/8769C/8719C/8609C/8509C/5809C/5709C/5609C/5509C/3609C/SV-C120UM/C70UM/C60UM/C100UP/C50UP



MAIN PCB	C1P113	C1P114	R1P108
No Marking	Addition	Delete	R-CARBON
Ⓐ Marking	Delete	Addition	R-CHIP

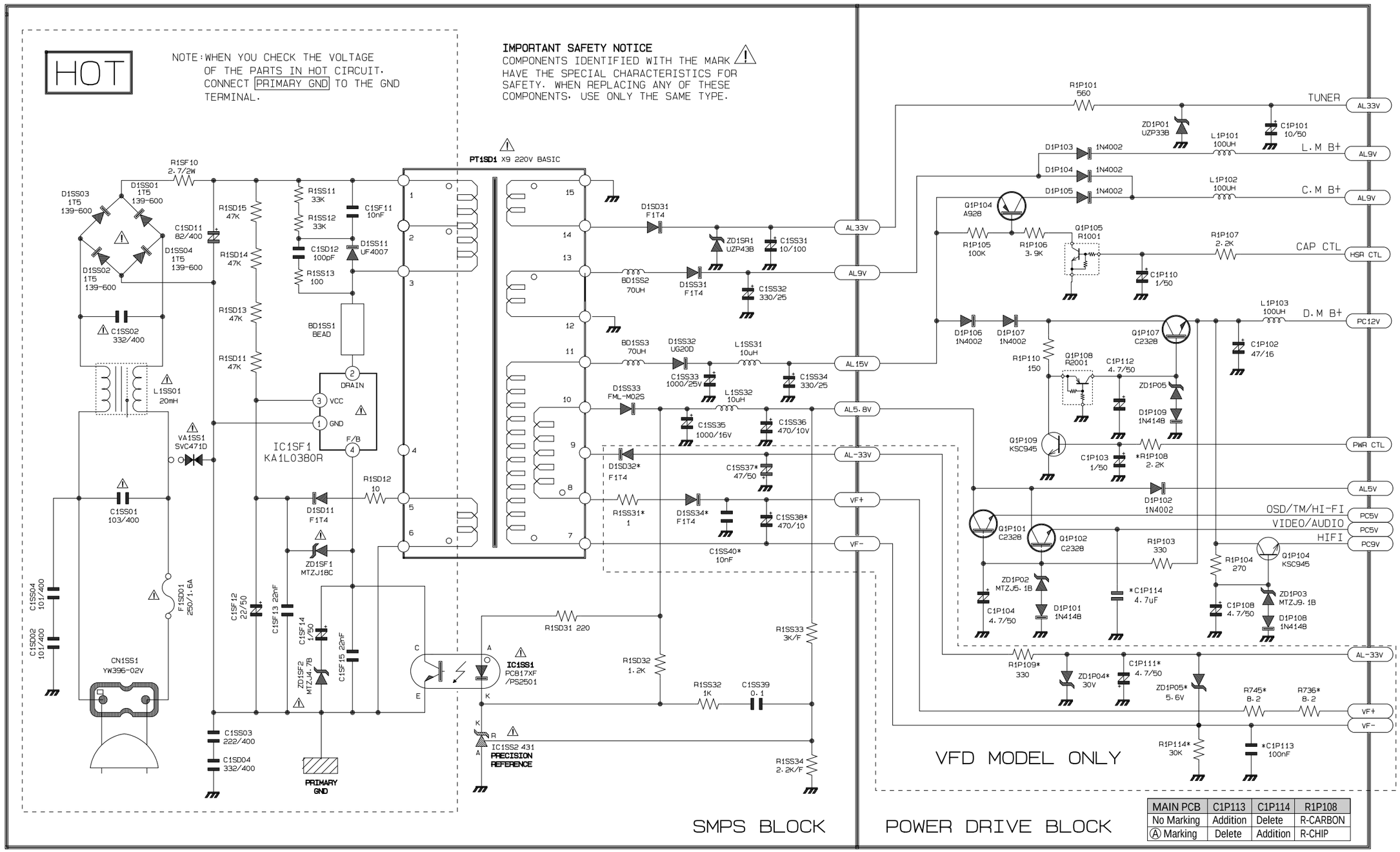
5-2 S.M.P.S./Power (120 Voltage - 2)

Application Models ; VR8459/8409/5459/5409/3409/8459C/8409C/5459C/5409C/3409C/SV-C95UM/C45UM



5-3 S.M.P.S./Power (Free Voltage - 1)

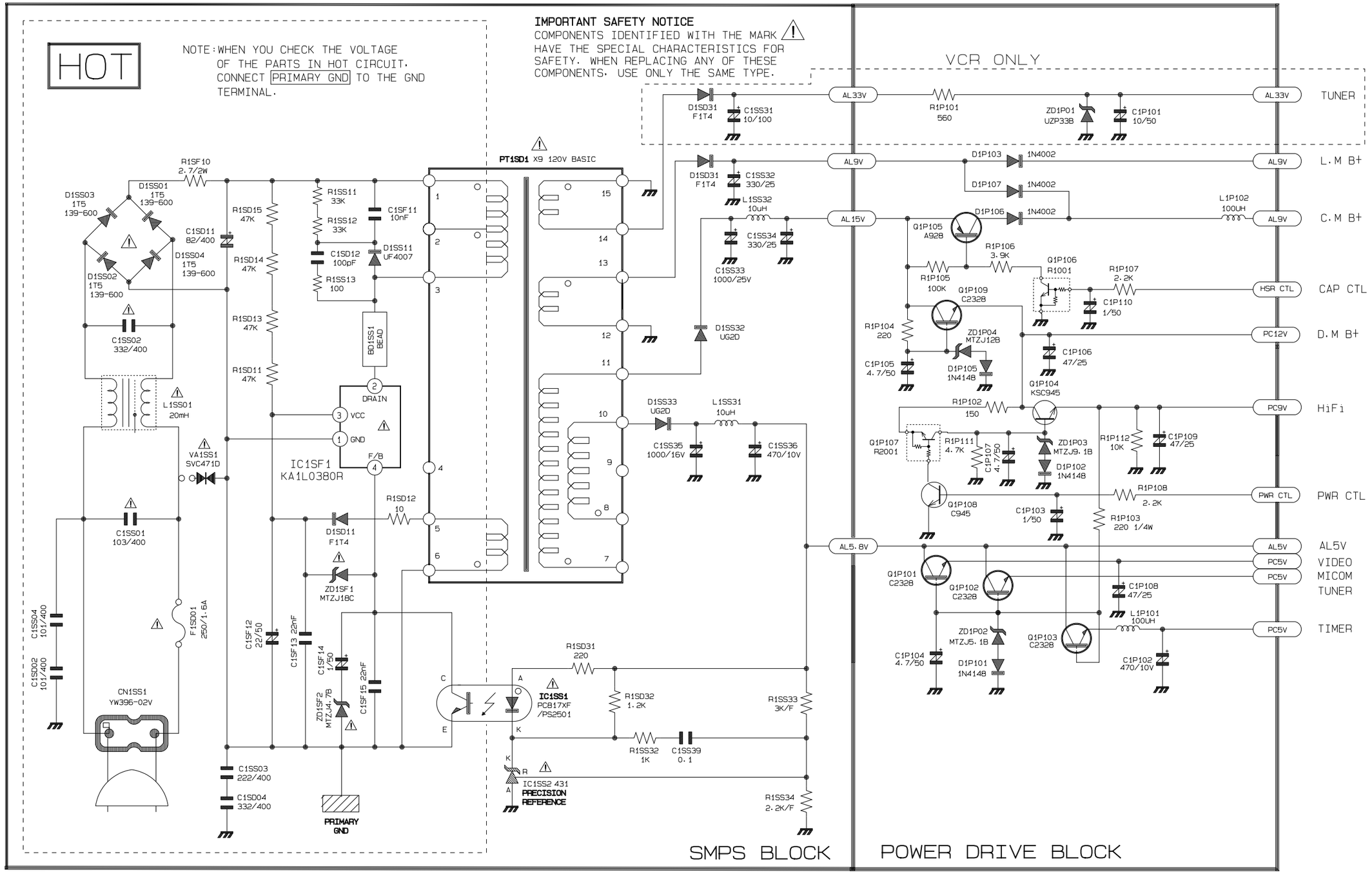
Application Models ; SV-C151P/C142P/C141P/C123P/C122P/C106P/C105P/C63P/C61P/C60P/C56P/C55P/C52P/C25P/22P



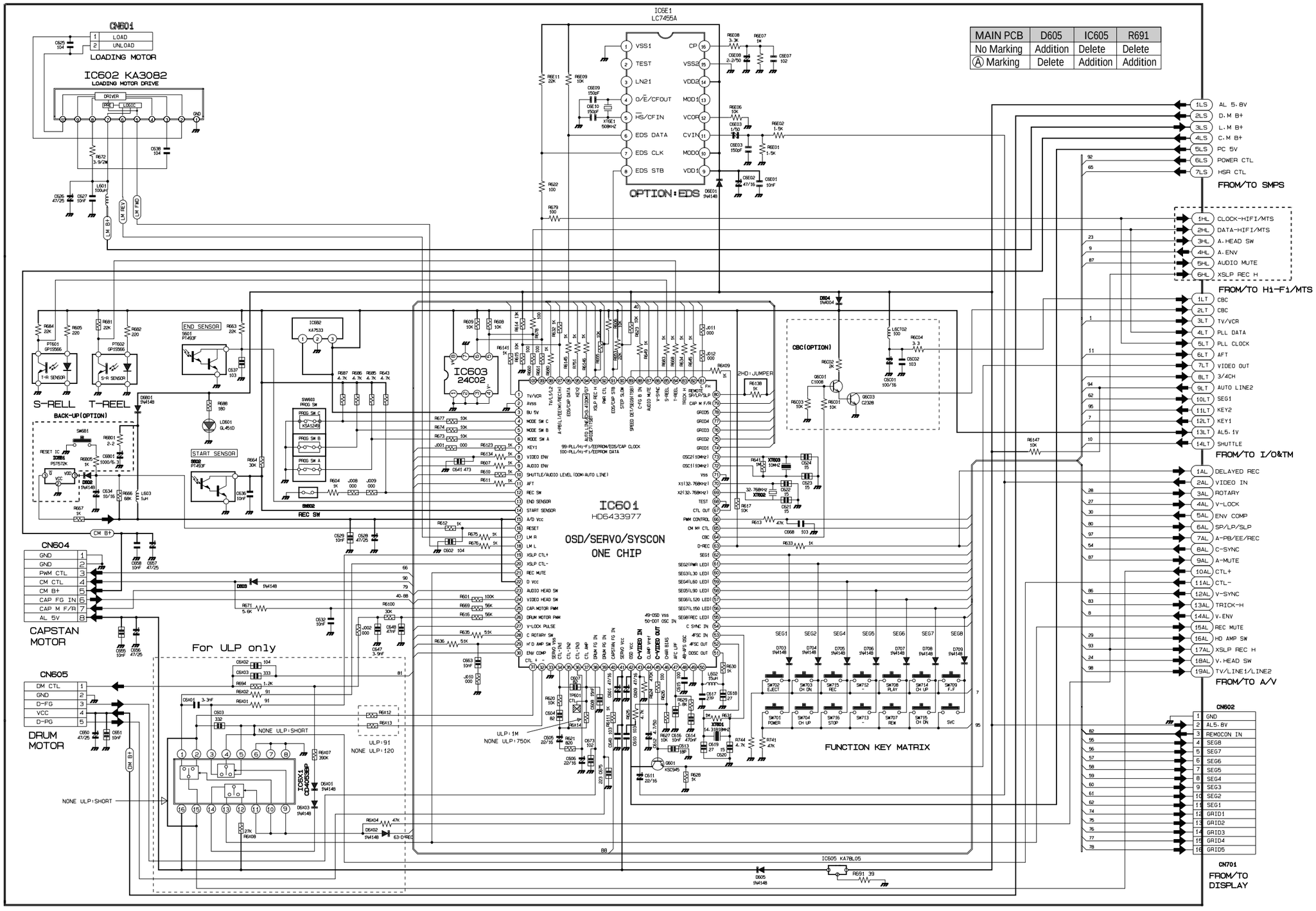
MAIN PCB	C1P113	C1P114	R1P108
No Marking	Addition	Delete	R-CARBON
Ⓐ Marking	Delete	Addition	R-CHIP

5-4 S.M.P.S./Power (Free Voltage - 2)

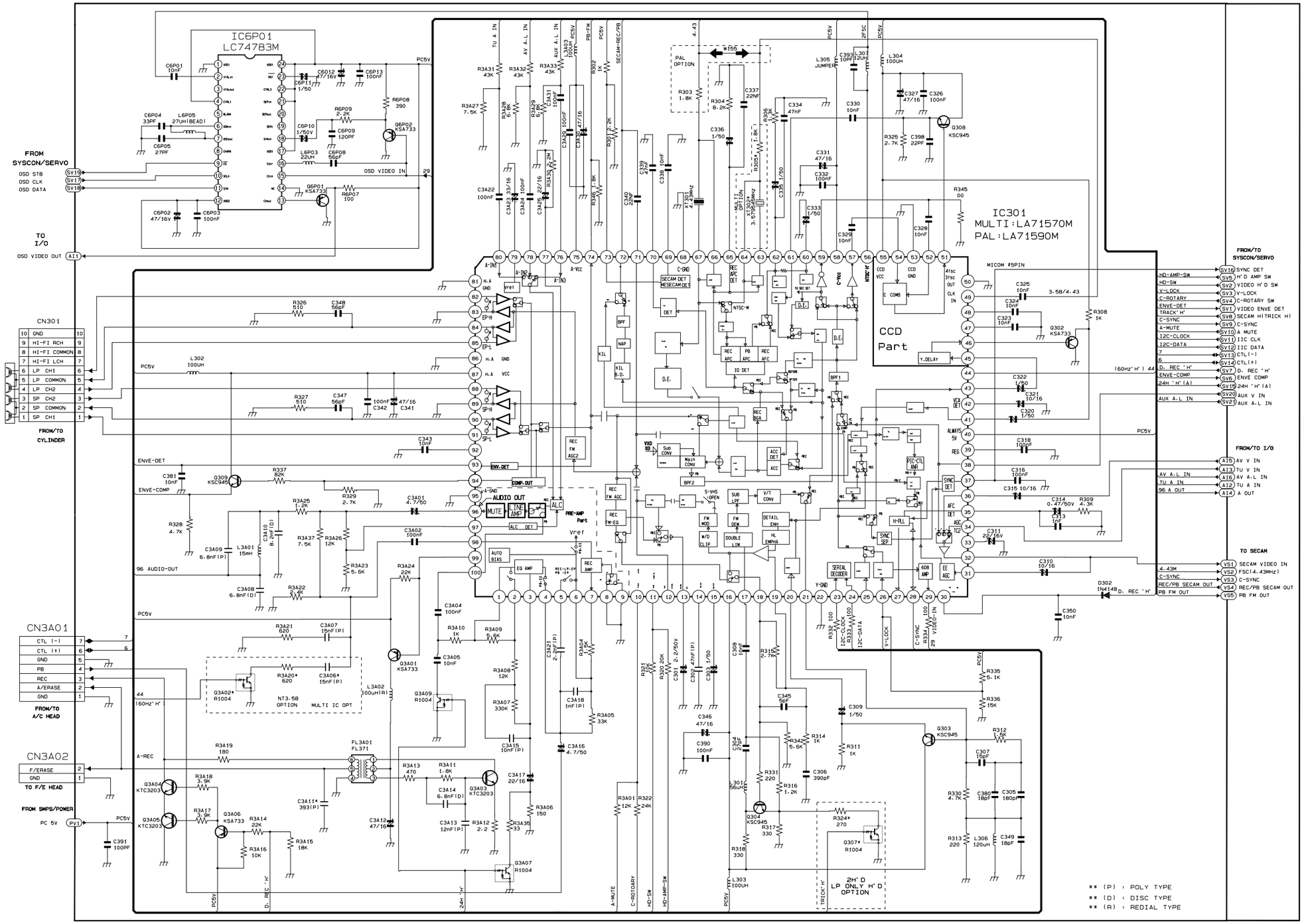
Application Models ; SV-C90P/C45P/C40P/C15P/SP-C15P



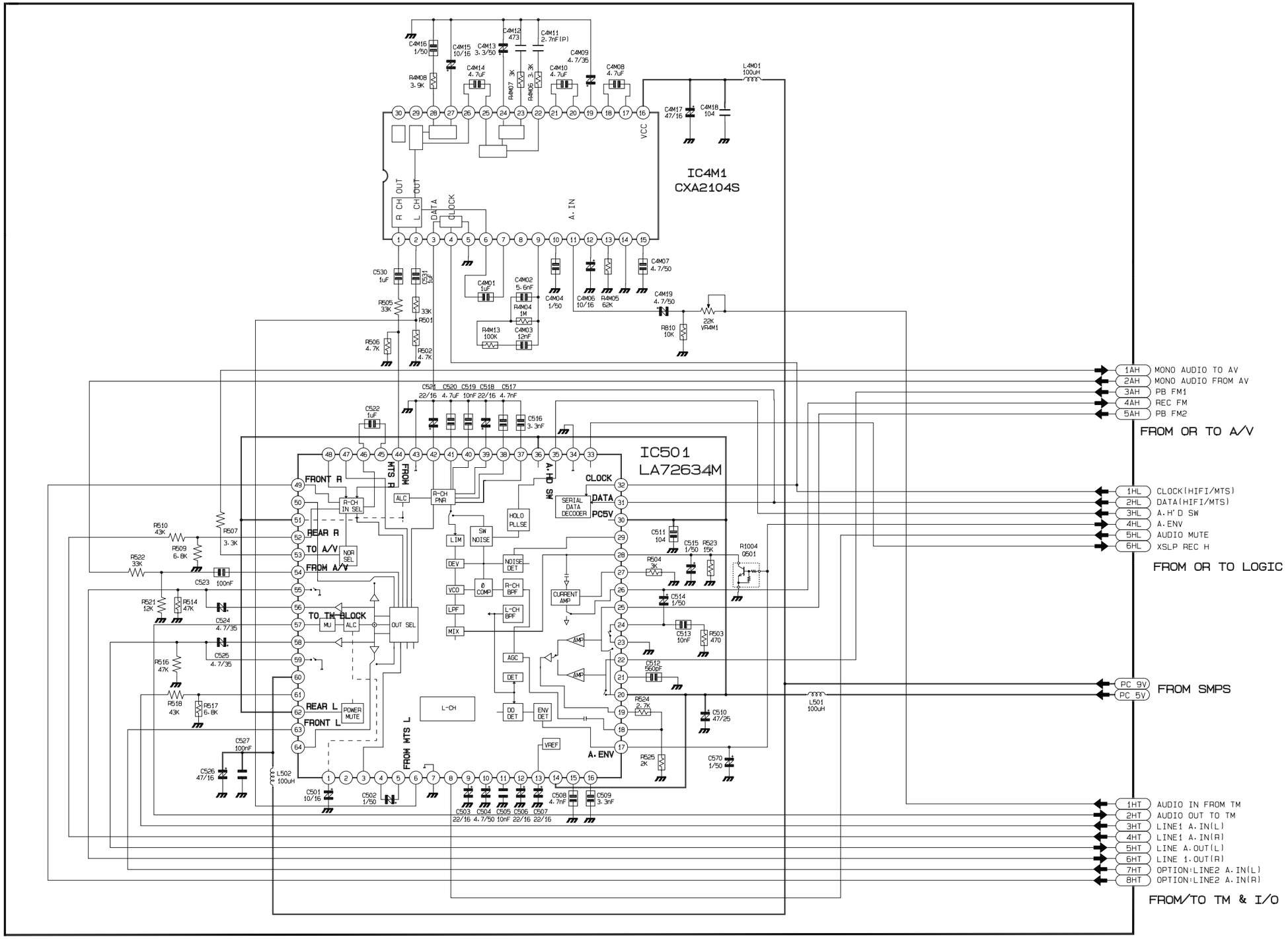
5-5 Logic


IC601
HD6433977
OSD/SERVO/SYSCON
ONE CHIP
IC602 KA3082
LOADING MOTOR DRIVE
LOADING MOTOR
IC603
24C02
IC6E1
LC7455A
OPTION:EDS
IC605 KA78L05
IC606
CD4066BC
IC607
KA7533
IC608
KA1249
IC609
PS1572K
CN601
LOAD
UNLOAD
CN604
GND
PWM CTL
CM CTL
CM B+
CAP FG IN
CAP M F/R
AL 5V
CAPSTAN MOTOR
CN605
DM CTL
GND
D-FG
VCC
D-PG
DRUM MOTOR
S-REEL T-REEL
BACK-UP(OPTION)
END SENSOR
START SENSOR
REC SW
For ULP only
NONE ULP:SHORT
ULP:1M
NONE ULP:750K
ULP:91
NONE ULP:120
2HD:JUMPER
CBC(OPTION)
FUNCTION KEY MATRIX
FROM/TO SMPS
FROM/TO H1-F1/MTS
FROM/TO I/O&TM
FROM/TO A/V
FROM/TO DISPLAY
CN602
CN701
MAIN PCB | D605 | IC605 | R691
No Marking | Addition | Delete | Delete
Ⓐ Marking | Delete | Addition | Addition
1LS AL 5.8V
2LS D.M B+
3LS L.M B+
4LS C.M B+
5LS PC 5V
6LS POWER CTL
7LS HSR CTL
1HL CLOCK-HIFI/MTS
2HL DATA-HIFI/MTS
3HL A.HEAD SW
4HL A.ENV
5HL AUDIO MUTE
6HL XSLP REC H
1LT CBC
2LT CBC
3LT TV/VCR
4LT PLL DATA
5LT PLL CLOCK
6LT AFT
7LT VIDEO OUT
8LT 3/4CH
9LT AUTO LINE2
10LT SEG1
11LT KEY2
12LT KEY1
13LT AL5.1V
14LT SHUTTLE
1AL DELAYED REC
2AL VIDEO IN
3AL ROTARY
4AL V-LOCK
5AL ENV COMP
6AL SP/LP/SLP
7AL A-PB/EE/REC
8AL C-SYNC
9AL A-MUTE
10AL CTL+
11AL CTL-
12AL V-SYNC
13AL TRICK-H
14AL V.ENV
15AL REC MUTE
16AL HD AMP SW
17AL XSLP REC H
18AL V.HEAD SW
19AL TV/LINE1/LINE2
1 GND
2 AL5.8V
3 REMOCON IN
4 SEG8
5 SEG7
6 SEG6
7 SEG5
8 SEG4
9 SEG3
10 SEG2
11 SEG1
12 GRID1
13 GRID2
14 GRID3
15 GRID4
16 GRID5

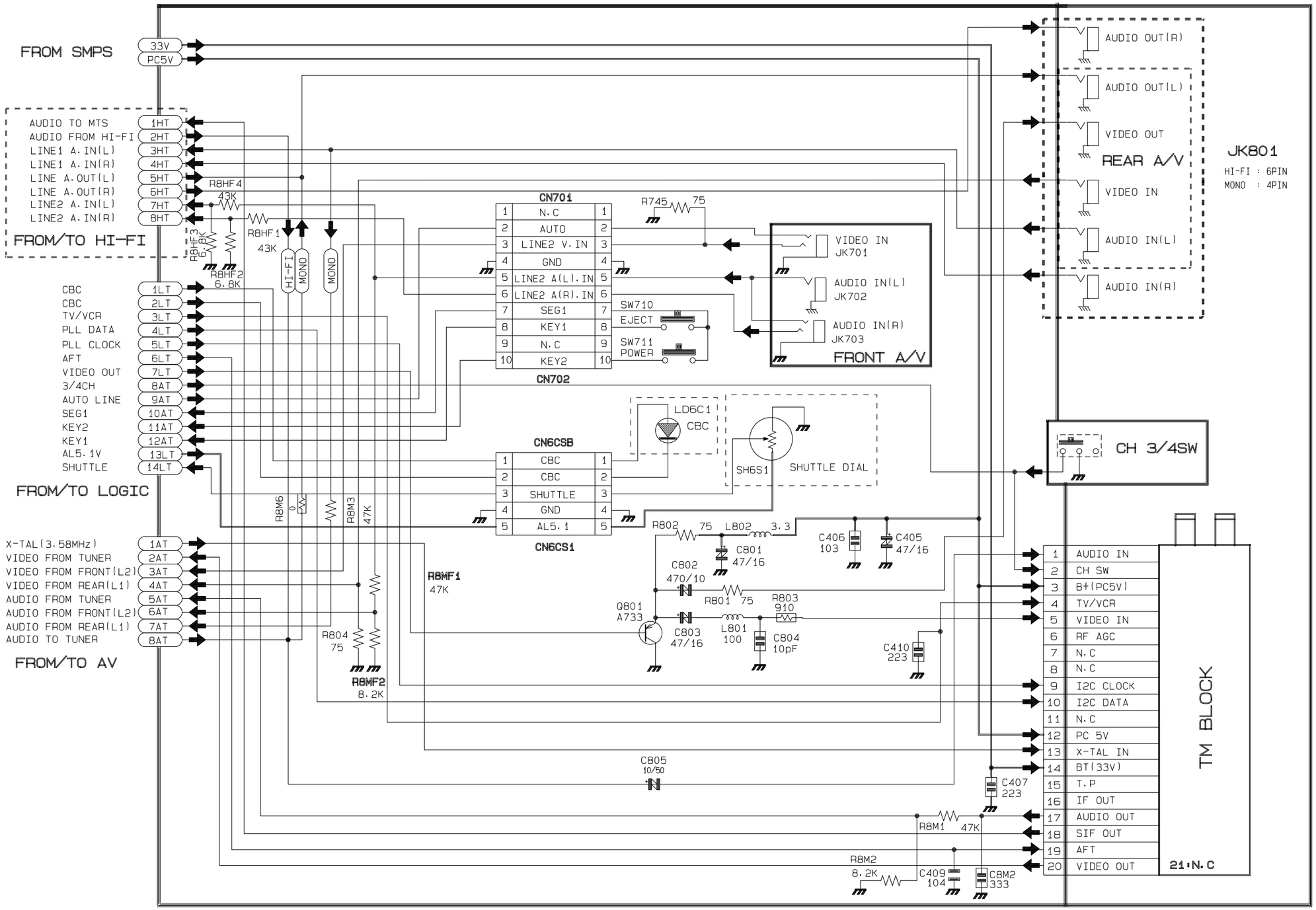
5-6 Audio/Video



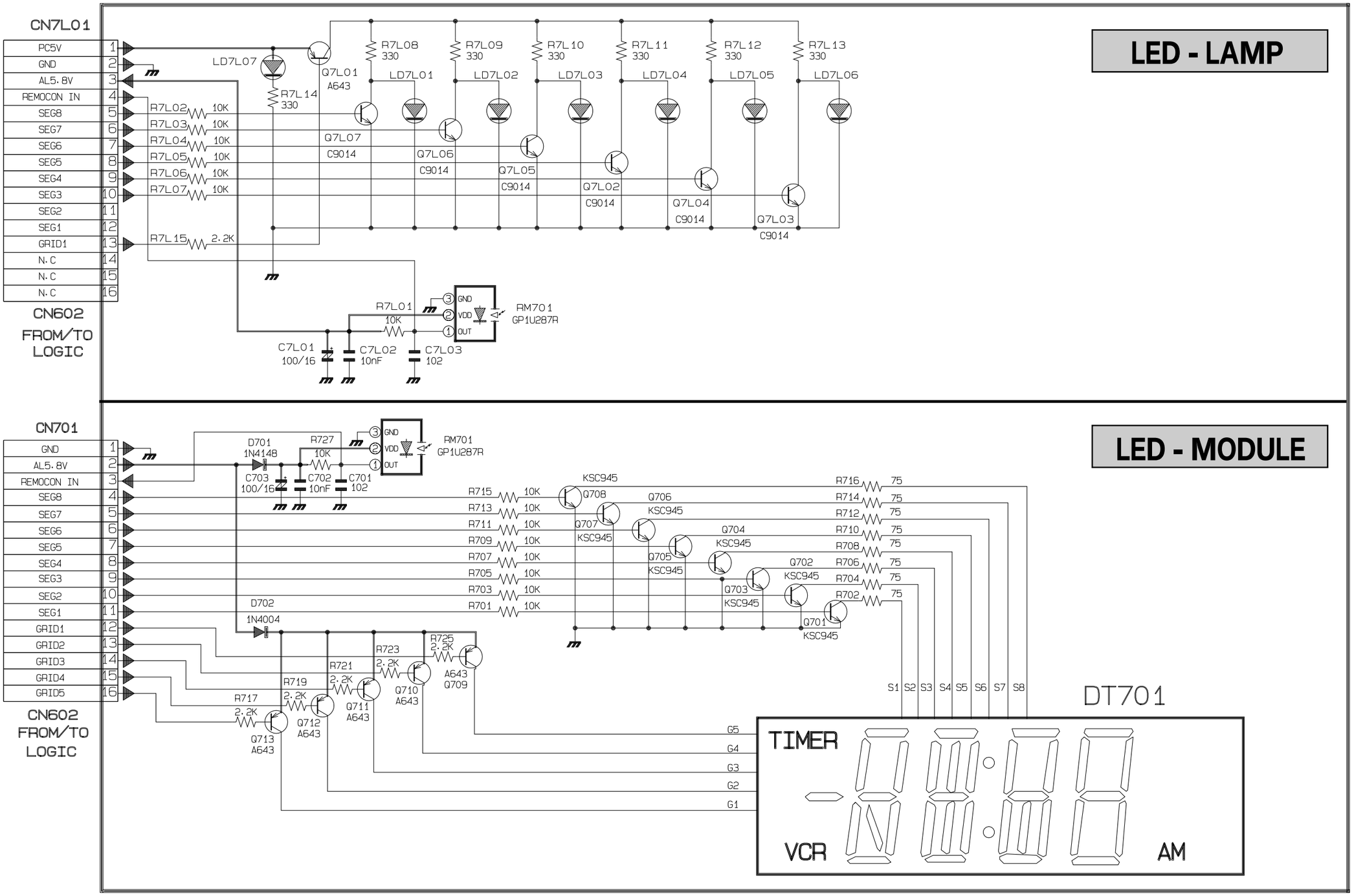
5-7 Hi-Fi/MTS


IC4M1
CXA2104S
IC501
LA72634M
1AH MONO AUDIO TO AV
2AH MONO AUDIO FROM AV
3AH PB FM1
4AH REC FM
5AH PB FM2
FROM OR TO A/V
1HL CLOCK(HIFI/MTS)
2HL DATA(HIFI/MTS)
3HL A.H'D SW
4HL A.ENV
5HL AUDIO MUTE
6HL XSLP REC H
FROM OR TO LOGIC
PC 9V
PC 5V
FROM SMPS
1HT AUDIO IN FROM TM
2HT AUDIO OUT TO TM
3HT LINE1 A.IN(L)
4HT LINE1 A.IN(R)
5HT LINE A.OUT(L)
6HT LINE 1.OUT(R)
7HT OPTION:LINE2 A.IN(L)
8HT OPTION:LINE2 A.IN(R)
FROM/TO TM & I/O

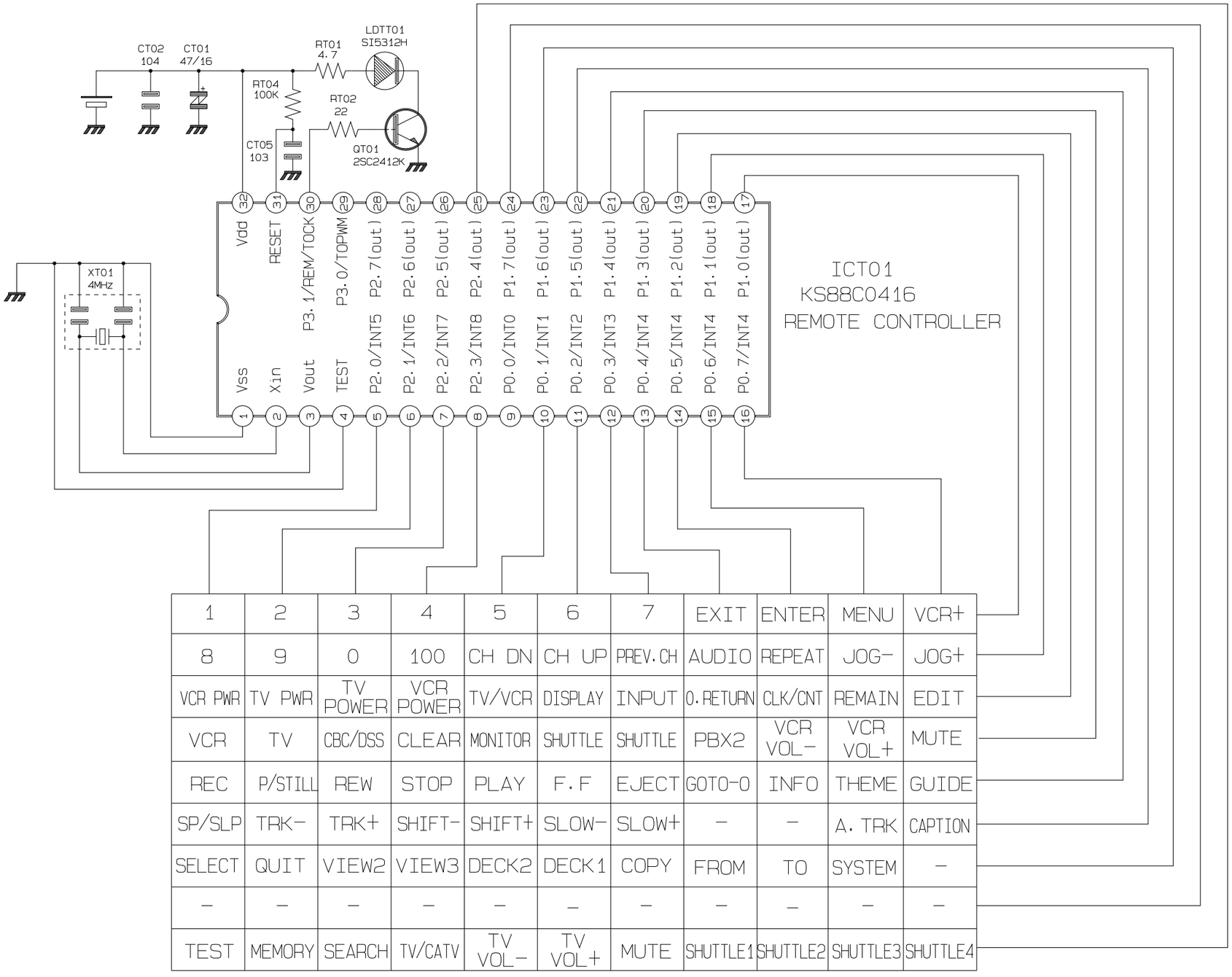
5-8 TM-Block/Input-Ouput



5-9 Display


CN7L01
PC5V
GND
AL5.8V
REMOCON IN
SEG8
SEG7
SEG6
SEG5
SEG4
SEG3
SEG2
SEG1
GRID1
N.C
N.C
N.C
CN602
FROM/TO
LOGIC
LED - LAMP
LD7L07
Q7L01
A643
R7L14
330
R7L08
330
R7L09
330
R7L10
330
R7L11
330
R7L12
330
R7L13
330
LD7L01
LD7L02
LD7L03
LD7L04
LD7L05
LD7L06
R7L02 10K
R7L03 10K
R7L04 10K
R7L05 10K
R7L06 10K
R7L07 10K
R7L15 2.2K
Q7L07
C9014
Q7L06
C9014
Q7L05
C9014
Q7L02
C9014
Q7L04
C9014
Q7L03
C9014
R7L01
10K
RM701
GP1U287R
GND
VDD
OUT
C7L01
100/16
C7L02
10nF
C7L03
102
CN701
GND
AL5.8V
REMOCON IN
SEG8
SEG7
SEG6
SEG5
SEG4
SEG3
SEG2
SEG1
GRID1
GRID2
GRID3
GRID4
GRID5
CN602
FROM/TO
LOGIC
D701
1N4148
R727
10K
C703
100/16
C702
10nF
C701
102
LED - MODULE
KSC945
Q708
Q706
KSC945
Q707
KSC945
Q704
KSC945
Q705
KSC945
Q702
KSC945
Q703
KSC945
Q701
KSC945
R715 10K
R713 10K
R711 10K
R709 10K
R707 10K
R705 10K
R703 10K
R701 10K
R716 75
R714 75
R712 75
R710 75
R708 75
R706 75
R704 75
R702 75
D702
1N4004
R723
2.2K
R725
2.2K
A643
Q709
R721
2.2K
Q710
A643
R719
2.2K
Q711
A643
R717
2.2K
Q712
A643
Q713
A643
S1 S2 S3 S4 S5 S6 S7 S8
DT701
G5
G4
G3
G2
G1
TIMER
VCR
AM

5-10 Remote-Control (Multi-TV)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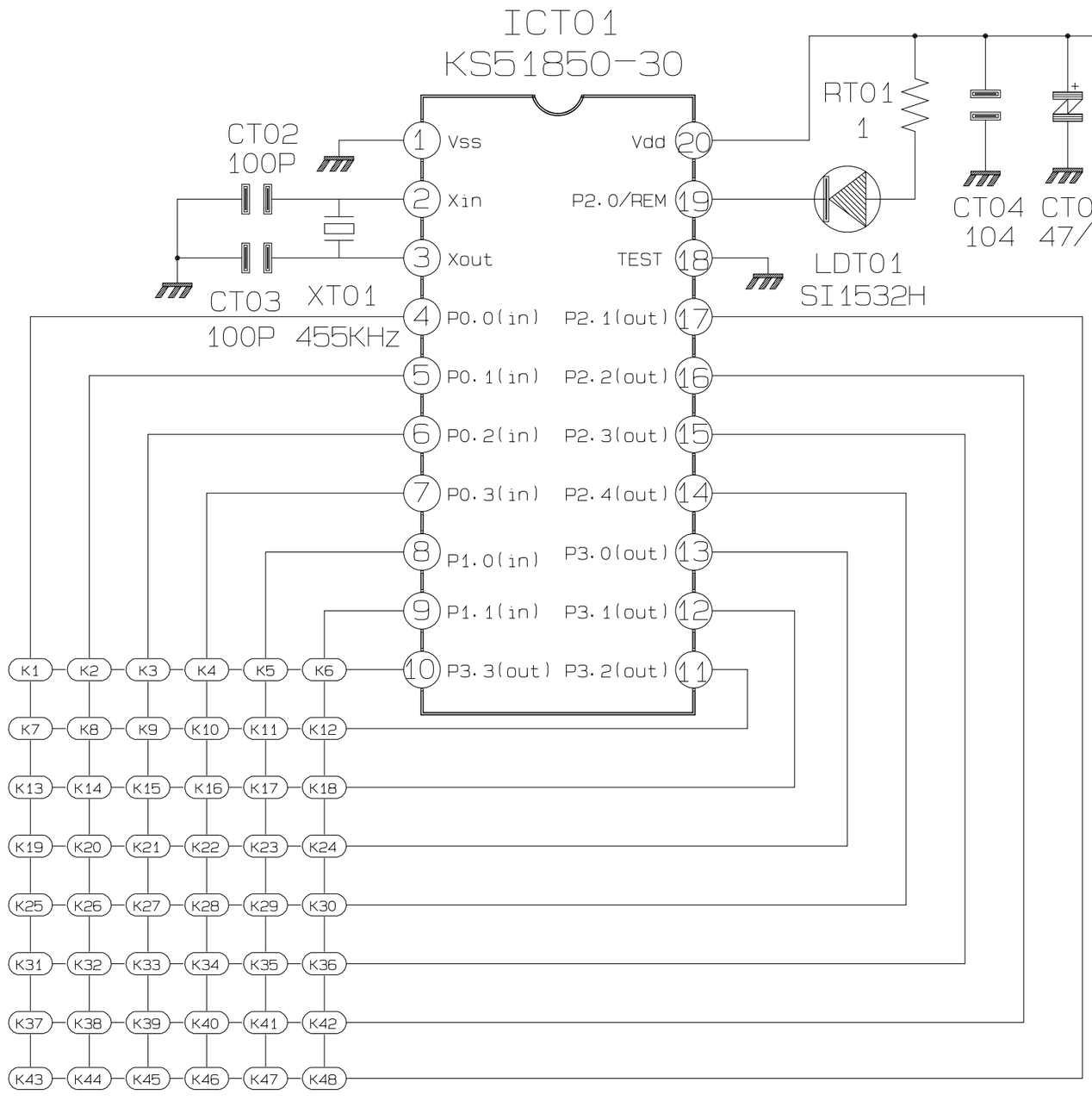
CT01 47/16
RT01 4.7
LDT01 SI5312H
RT04 100K
RT02 22
CT05 103
QT01 2SC2412K
XT01 4MHz
ICT01
KS88C0416
REMOTE CONTROLLER
Vdd RESET P3.1/REM/TOCK P3.0/TOPWM P2.7(out) P2.6(out) P2.5(out) P2.4(out) P1.7(out) P1.6(out) P1.5(out) P1.4(out) P1.3(out) P1.2(out) P1.1(out) P1.0(out)
Vss Xin Vout TEST P2.0/INT5 P2.1/INT6 P2.2/INT7 P2.3/INT8 P0.0/INT0 P0.1/INT1 P0.2/INT2 P0.3/INT3 P0.4/INT4 P0.5/INT4 P0.6/INT4 P0.7/INT4
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

1	2	3	4	5	6	7	EXIT	ENTER	MENU	VCR+
8	9	0	100	CH DN	CH UP	PREV.CH	AUDIO	REPEAT	JOG−	JOG+
VCR PWR	TV PWR	TV POWER	VCR POWER	TV/VCR	DISPLAY	INPUT	0.RETURN	CLK/CNT	REMAIN	EDIT
VCR	TV	CBC/DSS	CLEAR	MONITOR	SHUTTLE	SHUTTLE	PBX2	VCR VOL−	VCR VOL+	MUTE
REC	P/STILL	REW	STOP	PLAY	F.F	EJECT	GOTO-0	INFO	THEME	GUIDE
SP/SLP	TRK−	TRK+	SHIFT−	SHIFT+	SLOW−	SLOW+	−	−	A.TRK	CAPTION
SELECT	QUIT	VIEW2	VIEW3	DECK2	DECK1	COPY	FROM	TO	SYSTEM	−
−	−	−	−	−	−	−	−	−	−	−
TEST	MEMORY	SEARCH	TV/CATV	TV VOL−	TV VOL+	MUTE	SHUTTLE1	SHUTTLE2	SHUTTLE3	SHUTTLE4

5-11 Remote-Control (VCR Only)



KEY NO.	KEY NAME	KEY NO.	KEY NAME	KEY NO.	KEY NAME
K1	PROGRAM	K17	AUTO REPEAT	K33	MENU
K2	SHIFT<-	K18	DISPLAY	K34	CLEAR
K3	SHIFT->	K19	POWER	K35	SEARCH
K4	-	K20	TV/VCR	K36	INPUT
K5	-	K21	ENTER	K37	CH7
K6	TEST	K22	AUDIO	K38	CH8
K7	TRACKING+	K23	P/STILL	K39	CH9
K8	TRACKING-	K24	EJECT	K40	CH0
K9	-	K25	PLAY	K41	-
K10	SLOW+	K26	STOP	K42	PREV.CH
K11	SLOW-	K27	F.F	K43	CH1
K12	-	K28	REW	K44	CH2
K13	EDU.PLAY	K29	REC	K45	CH3
K14	PERIOD REPEAT	K30	REC.SPEED	K46	CH4
K15	CAPTION MUTE	K31	CH UP	K47	CH5
K16	-	K32	CH DN	K48	CH6

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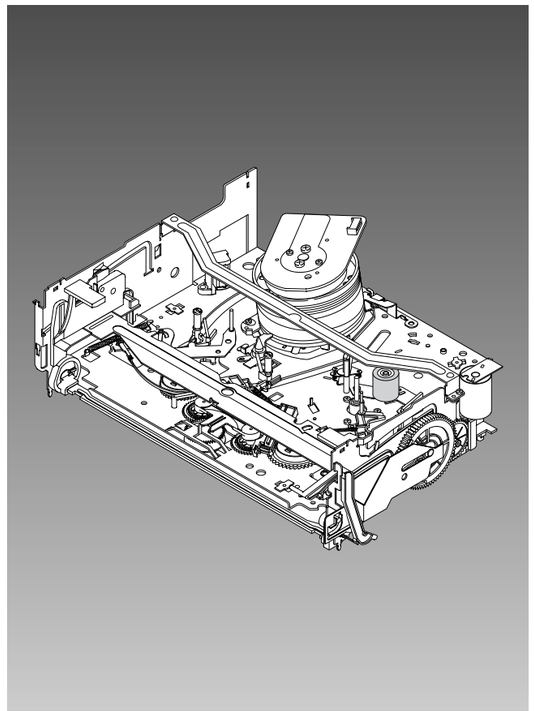
MECHANICAL Manual

◆ File with the SERVICE MANUAL.

VHS DECK



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1. Disassembly and Reassembly

2. Alignment and Adjustment

1. Disassembly and Reassembly

1-1 Deck Parts Locations

1-1-1 Top View

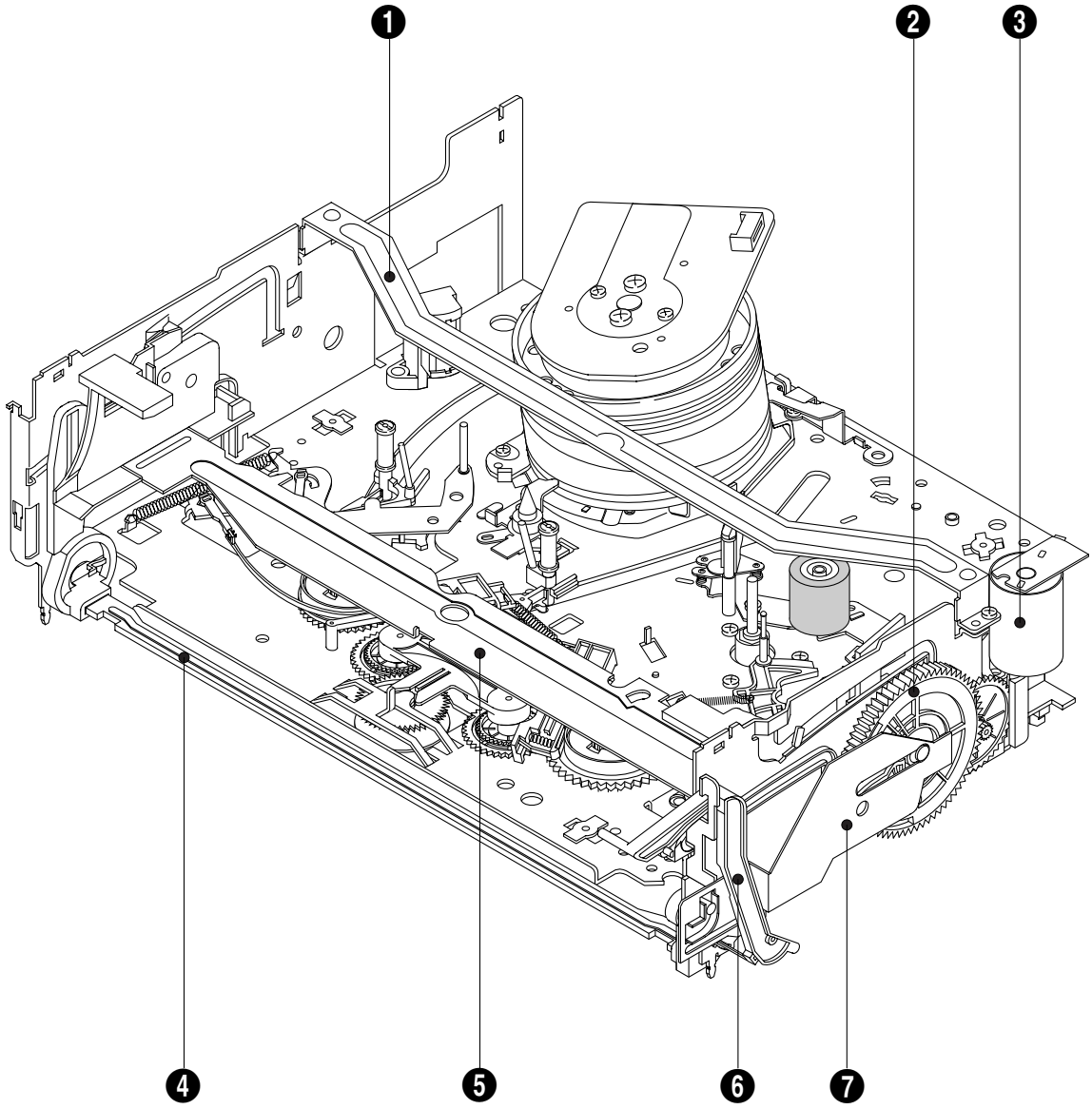


Fig. 1-1 Top parts Location-1

1. BRACKET FL TOP
2. GEAR FL CAM
3. MOTOR LOADING ASS'Y
4. LEVER FL ARM ASS'Y
5. HOLDER FL CASSETTE ASS'Y
6. LEVER FL DOOR
7. SLIDER FL DRIVE

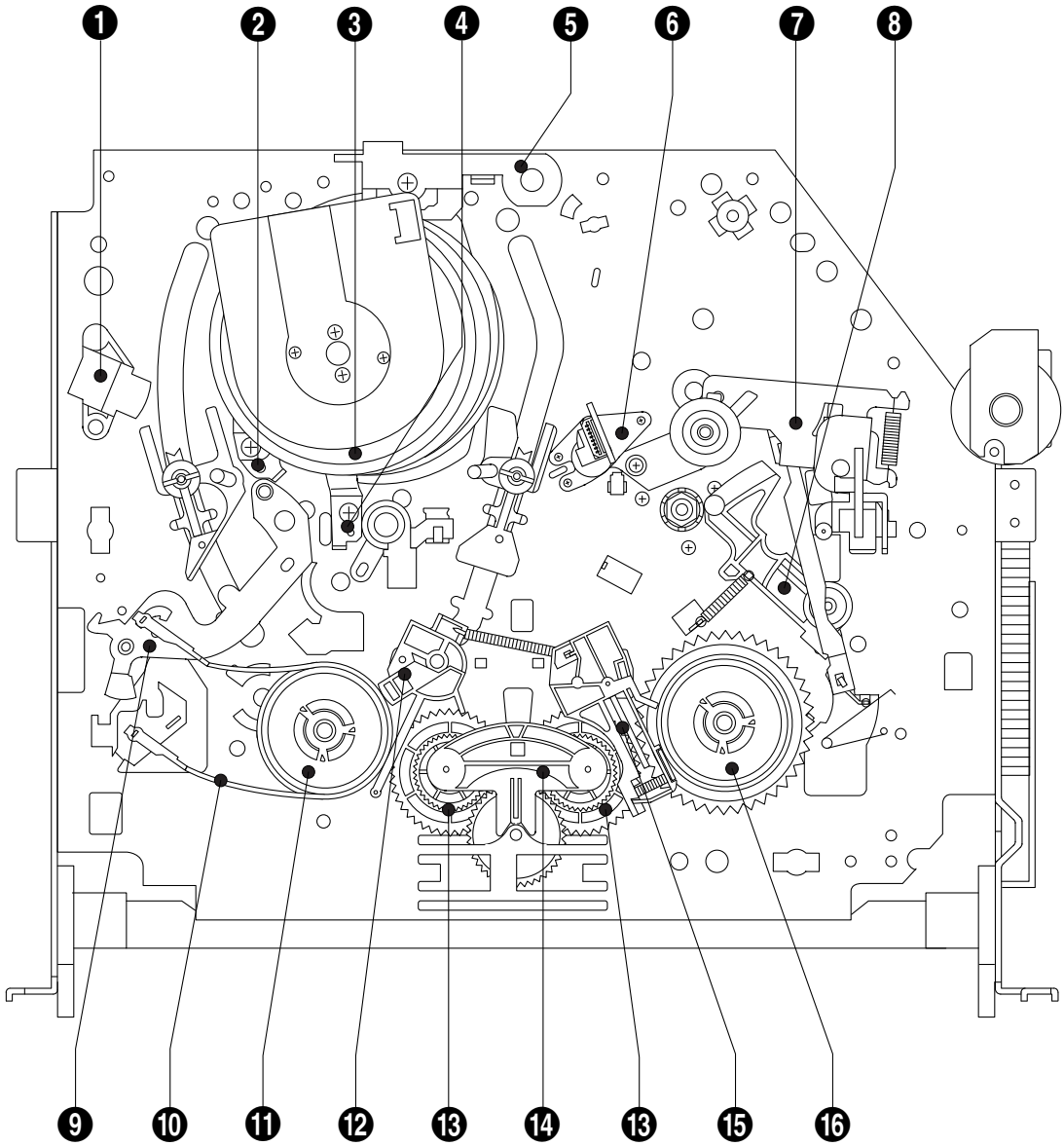


Fig. 1-2 Top Parts Location-2

❶ FE HEAD
❷ PLATE CYLINDER C
❸ CYLINDER ASS'Y
❹ PLATE CYLINDER B
❺ PLATE CYLINDER A
❻ ACE HEAD ASS'Y
❼ UNIT PINCH ASS'Y
❽ LEVER #9 GUIDE ASS'Y
❾ LEVER TENSION ASS'Y
❿ BAND BRAKE ASS'Y
⓫ DISK S REEL
⓬ LEVER S BRAKE ASS'Y
⓭ GEAR IDLE
⓮ LEVER IDLE
⓯ LEVER T BRAKE ASS'Y
⓰ DISK T REEL

1-1-2 Bottom View

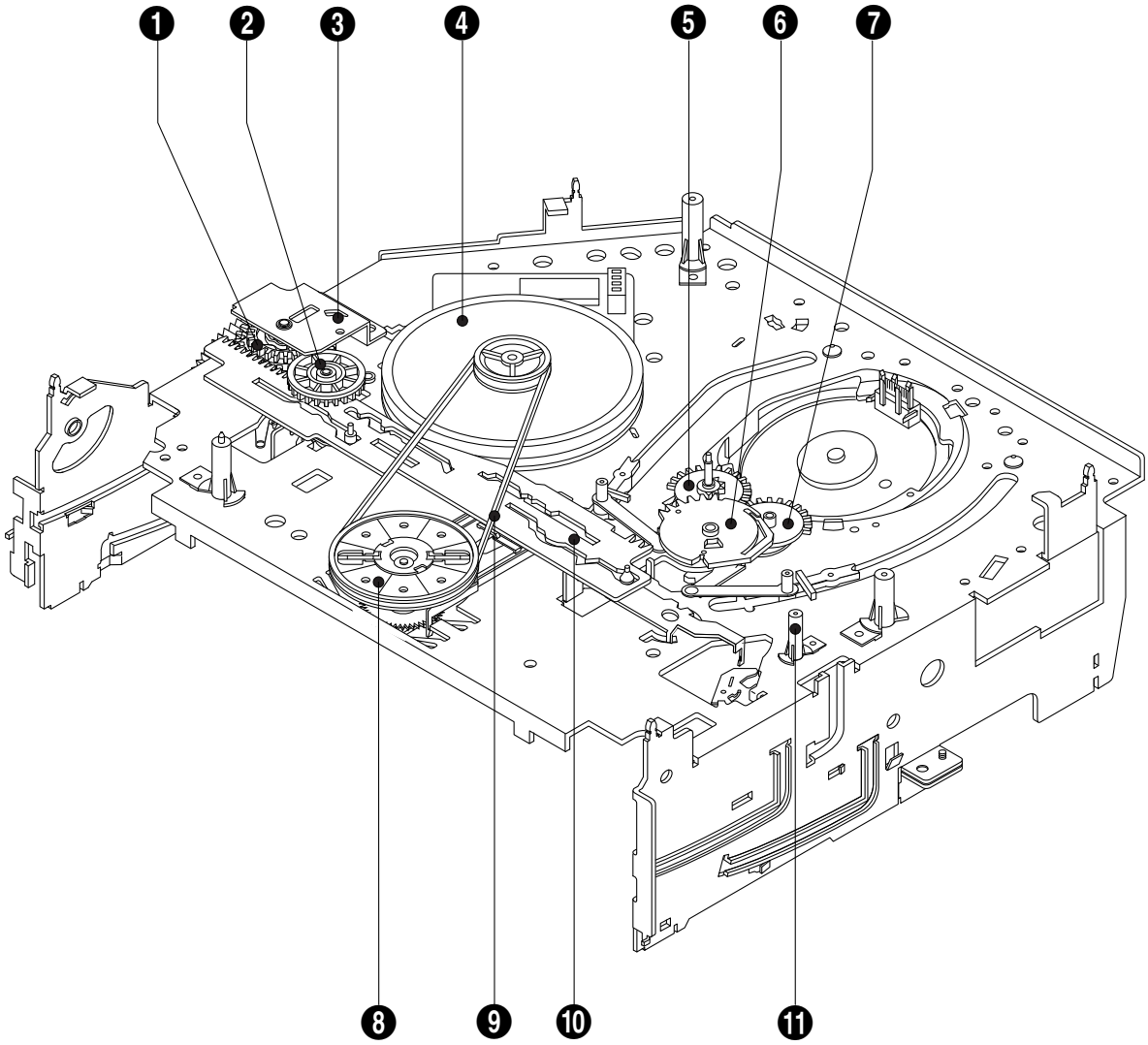


Fig. 1-3 Bottom Parts Location

1. GEAR JOINT 1
2. GEAR JOINT 2
3. BRAKET GEAR
4. MOTOR CAPSTAN ASS'Y
5. LEVER T LOAD ASS'Y
6. GEAR LOADING DRIVE
7. LEVER S LOAD ASS'Y
8. HOLDER CLUTCH ASS'Y
9. BELT PULLEY
10. SLIDER CAM
11. SLEEVE TENSION

1-2 Main Deck

1-2-1 Bracket FL Top Removal

1) Remove 2 screws ❶.
2) Remove the Bracket FL Top ❷.

Note : Take care not to change assembly direction.

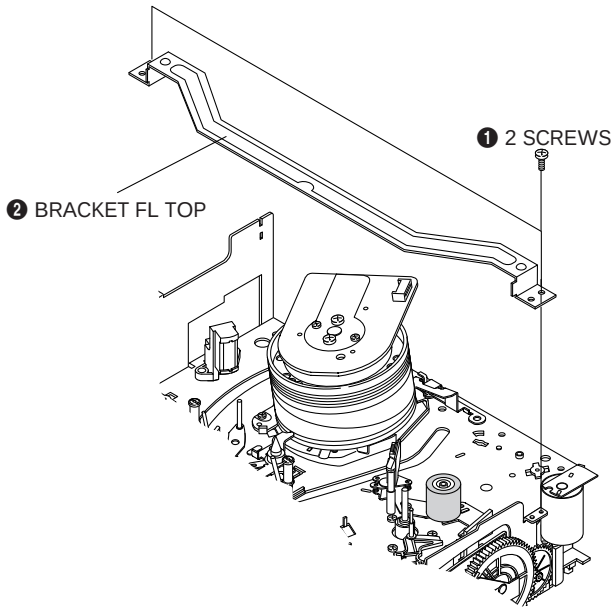


Fig. 1-4 Bracket FL Top Removal

1-2-2 Lever FL Door Removal

1) Rotate the Lever FL Door ❶ in the direction of arrow "A".
2) Release the Hook ❷, remove the Lever FL Door ❶ in the direction of arrow "B".

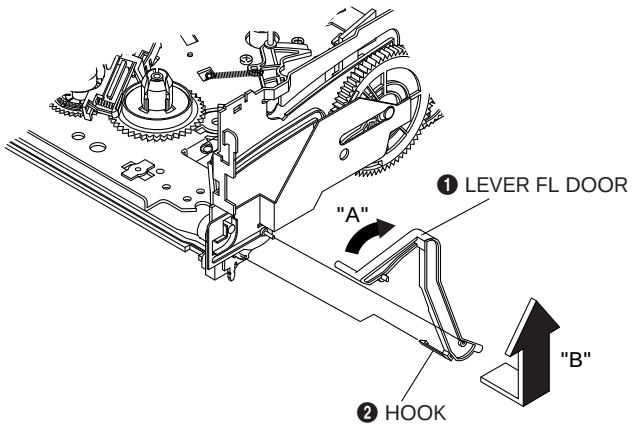


Fig. 1-5 Lever FL Door Removal

1-2-3 Holder FL Cassette Ass'y Removal

1) Remove the Lever FL Door. (Refer to Fig. 1-5)
2) Pull the Holder FL Cassette Ass'y ❶ to the eject position.
3) Pull the Holder FL Cassette Ass'y ❶ as grasping the Holder FL Cassette Ass'y ❶ and Lever FL Cassette-R ❷ in the same time to release hooking from Main Base until the Boss [A], [B] of Holder FL Cassette Ass'y ❶ is taken out from the Rail [C], [D].
4) Lift the Holder FL Cassette Ass'y ❶ in the direction of arrow "B" in this time, you have to grasp the Lever FL Cassette-R ❷ continuously until the Holder FL Cassette Ass'y ❶ is taken out completely.

Note : Be sure to insert Lever FL Cassette-R ❷ in the direction of "A" to prevent separation and breakage of the Lever FL Cassette-R ❷ at disassembling and reassembling.

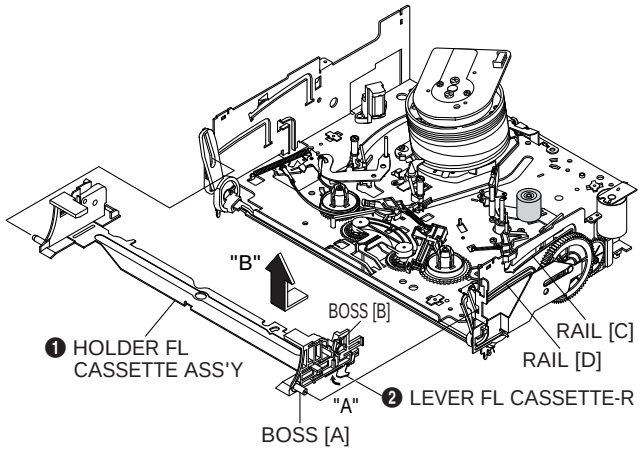


Fig. 1-6 Holder FL Cassette Ass'y Removal

1-2-4 Lever FL Arm Ass'y Removal

1) Remove the Lever FL Door. (Refer to Fig. 1-5)
2) Remove the Holder FL Cassette Ass'y. (Refer to Fig. 1-6)
3) Release the Hook ❶ in the direction of arrow "A", pull out the Lever FL Arm Ass'y ❹ from the Boss of Main Base.
4) Remove the Lever FL Arm Ass'y ❹ in the direction of arrow "B".

Assembly : When reinstalling, be sure to reassemble Lever FL Arm Ass'y ❹ after you insert the Boss ❷ in Groove [A] of Slider FL Drive ❸.

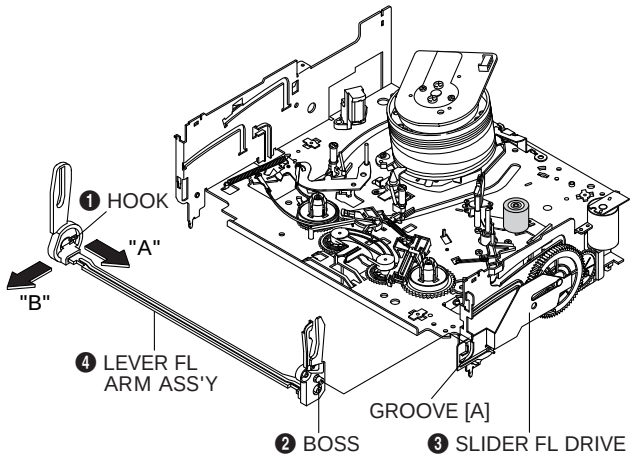


Fig. 1-7 Lever FL Arm Ass'y Removal

1-2-5 Slider FL Drive Removal

1) Pull the Slider FL Drive ❶ to the front direction.
2) Remove the Slider FL Drive ❶ in the direction of arrow. (Refer to Fig. 1-8)

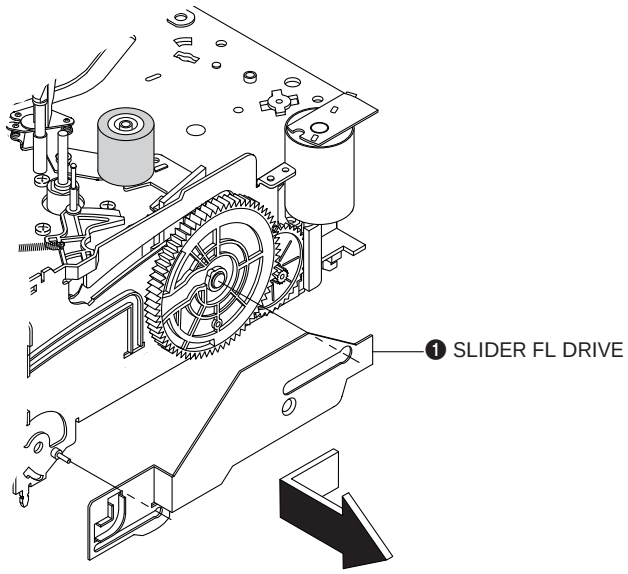


Fig. 1-8 Slider FL Drive Removal

1-2-6 Bracket Gear, Gear FL Cam, Gear Joint 1, 2 Removal

1) Remove screw ❶.
2) Lift the Bracket Gear ❷.
3) Remove the Gear FL Cam ❸.
4) Lift the Gear Joint 2 ❹, Gear Joint 1 ❺.

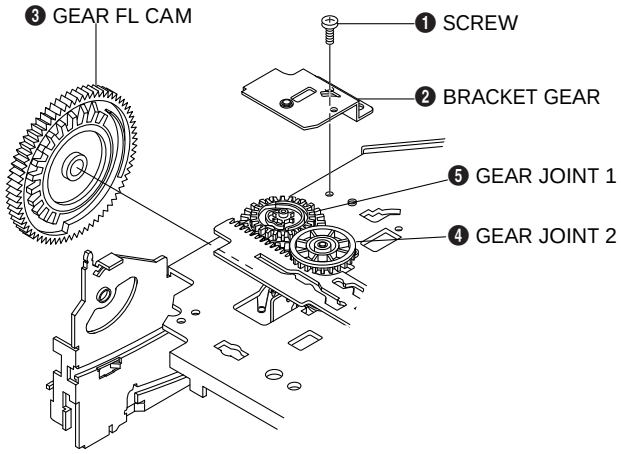


Fig. 1-9 Bracket Gear, Gear FL Cam, Gear Joint 1, 2 Removal

1-2-7 Assembly of Gear FL Cam, Gear Joint 1, 2

1) Be sure to align dot mark of Gear Joint 1 ❶ with dot mark of Gear Joint 2 ❷ as shown Fig. 1-10 (Refer to Timing Point 1), confirm the Timing Point 2 of the Gear Joint 2 ❷ and Slider Cam ❸.
2) Align the Gear FL Cam ❹ with the Gear Worm Wheel Post as shown detail drawing. (Refer to Timing Point 3)

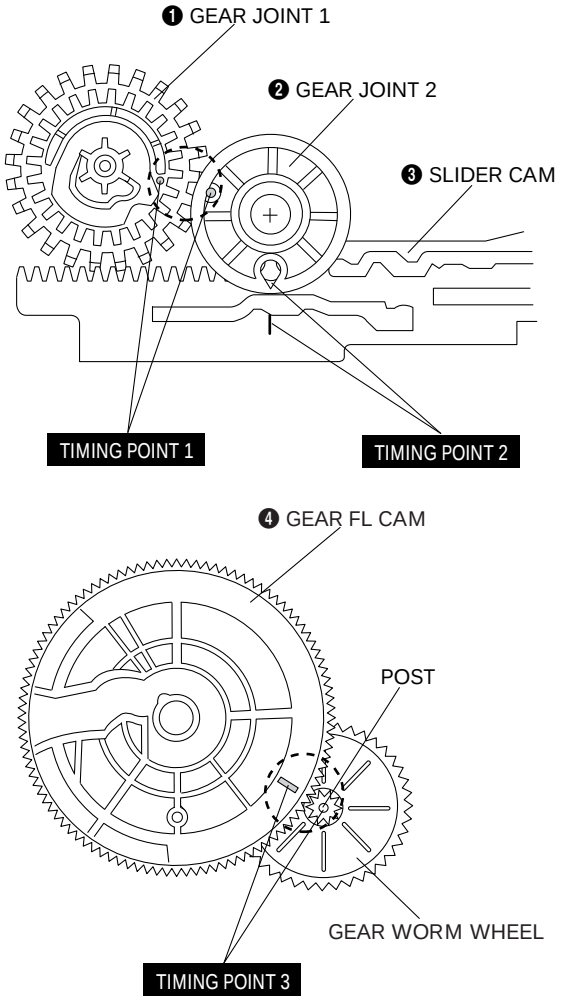


Fig. 1-10 Assembly of Gear FL Cam, Gear Joint 1,2

1-2-8 Holder Worm, Gear Worm, Gear Worm Wheel Removal

1) Release the Hook [A] in the direction of arrow and, remove the Holder Worm ❶.
2) Remove the Gear Worm ❷.
3) Remove the Gear Worm Wheel ❸. (After removing the Gear FL Cam as shown Fig. 1-9)

Note : Secure the Hook [A] after installing the Holder Worm ❶.

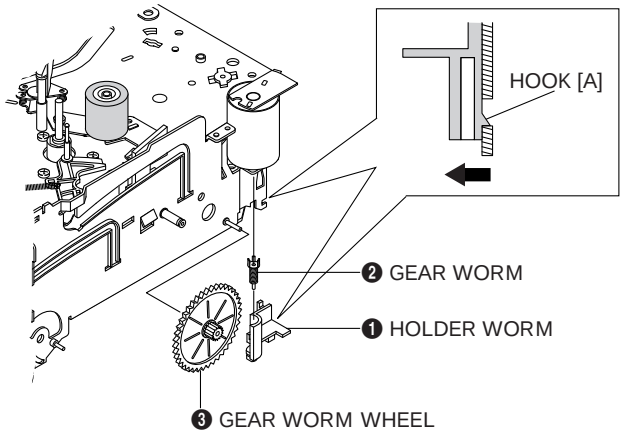


Fig. 1-11 Holder Worm, Gear Worm, Gear Worm Wheel Removal

1-2-9 Motor Loading Ass'y Removal

1) Remove the screw ❶.
2) Remove the Motor Loading Ass'y ❷.

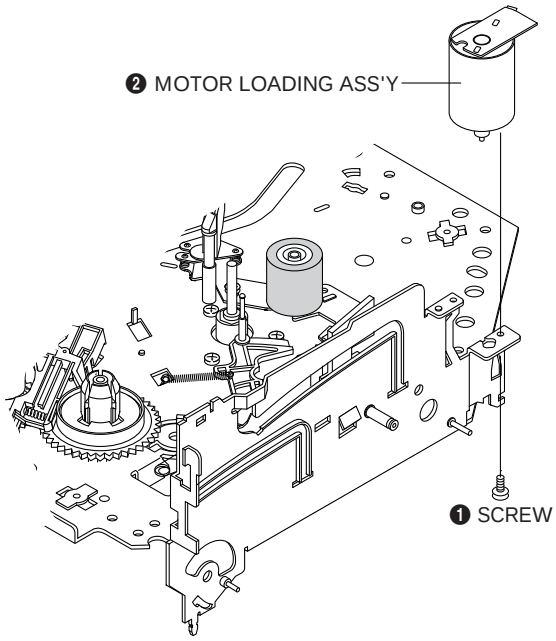


Fig. 1-12 Motor Loading Ass'y Removal

1-2-10 Gear Loading Drive, Slider Cam, Lever T, S Load Ass'y Removal

1) Remove the Belt Pulley. (Refer to Fig. 1-29)
2) Remove the Gear Loading Drive ❶ after releasing Hook [A] in the direction arrow as shown in detail drawing.
3) Remove the Slider Cam ❷.
4) Remove the Lever T, S Load Ass'y ❸, ❹.

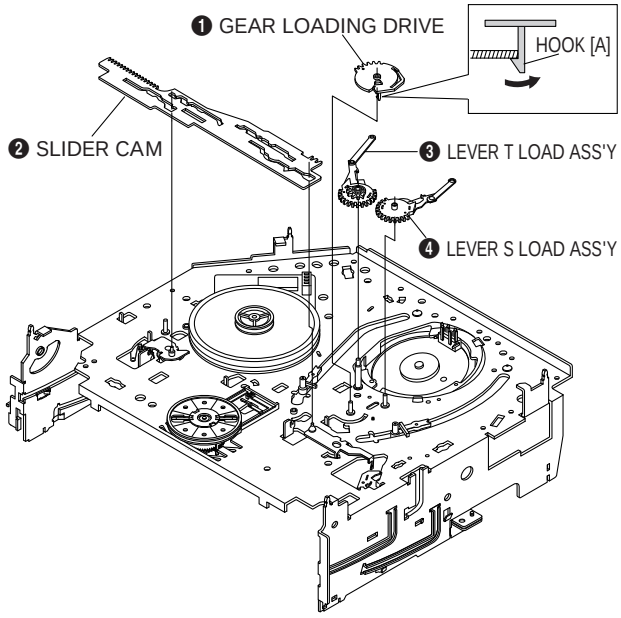


Fig. 1-13 Gear Loading Drive, Slider Cam, Lever T, S Load Ass'y Removal

1-2-11 Assembly of Gear Loading Drive, Slider Cam, Lever T, S Load Ass'y

1) When reinstalling, be sure to align dot of Lever T Load Ass'y ❶ with dot of Lever S Load Ass'y ❷ as shown in drawing. (Refer to Timing Point 1)
2) Insert the Pin A, B, C, D into the Slider Cam ❸ hole.
3) Be sure to align dot of Lever T Load Ass'y and dot of Gear Loading Drive ❹. (Refer to Timing Point 2)
4) Align dot of Gear Loading Drive with mark of Slider Cam as shown in drawing. (Refer to Timing Point 3)

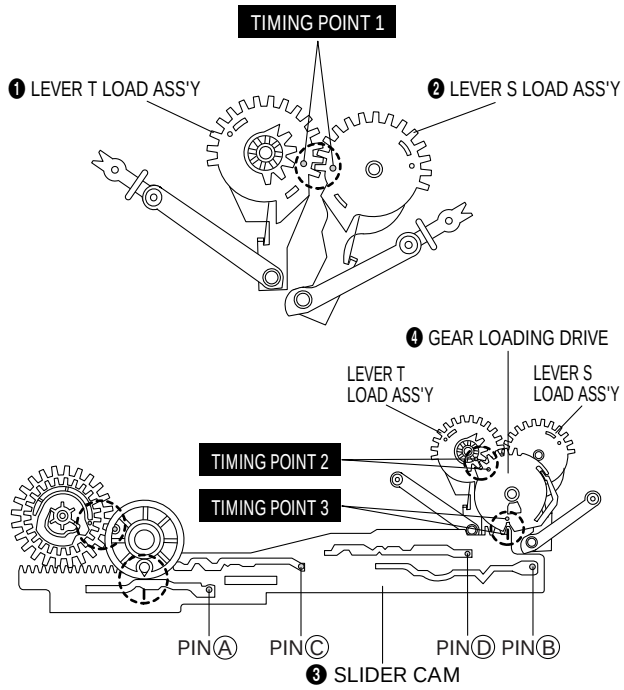


Fig. 1-14 Assembly of Gear Loading Drive, Slider Cam, Lever T, S Load Ass'y

1-2-12 Lever Tension Ass'y, Band Brake Ass'y, Sleeve Tension Removal

1) Remove the Spring Tension ❶.
2) In bottom side of Deck, remove the Sleeve Tension ❷ after rotating it right or left as lifting locking edge of Sleeve Tension.
3) Remove the side "a" of the Band Brake Ass'y ❹ in the direction of arrow "A" from the Lever Tension Ass'y ❸.
4) Remove the side "b" of the Band Brake Ass'y ❹ in the direction of arrow "B" from the Main Base.

Note :
1) When replacing the Lever Tension Ass'y, be sure to apply oil in the Sleeve Tension.
2) Take care not to touch stain on the felt side, and not to be folded and broken Band Brake Ass'y.

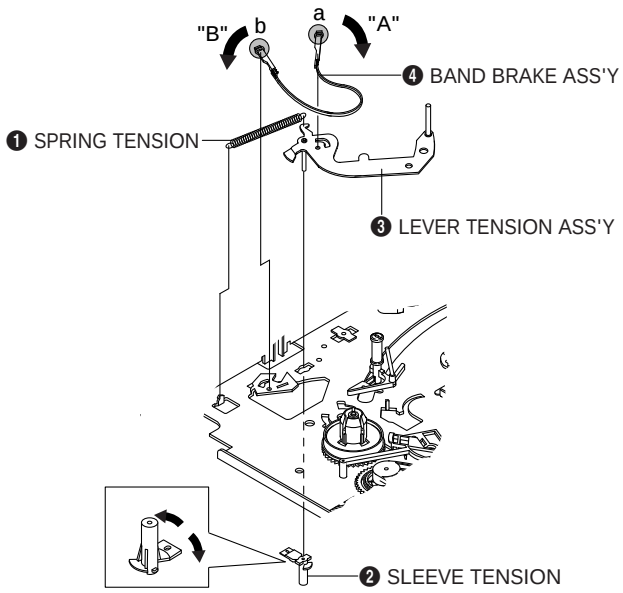


Fig. 1-15 Lever Tension Ass'y, Band Brake Ass'y, Sleeve Tension Removal

1-2-13 Lever S, T Brake Ass'y Removal

1) Release the Hook [A] and the Hook [B], [C] in the direction of arrow as shown in Fig. 1-16.
2) Lift the Lever S, T Brake Ass'y ❶, ❷ with Spring Brake ❸.

Assembly :
1) Assembly the Lever S Brake Ass'y ❶ on the Main Base.
2) Assembly the Lever T Brake Ass'y ❷ with Spring Brake ❸.

Note : Take extreme care not to be folded and transformed spring Brake at removing or reinstalling.

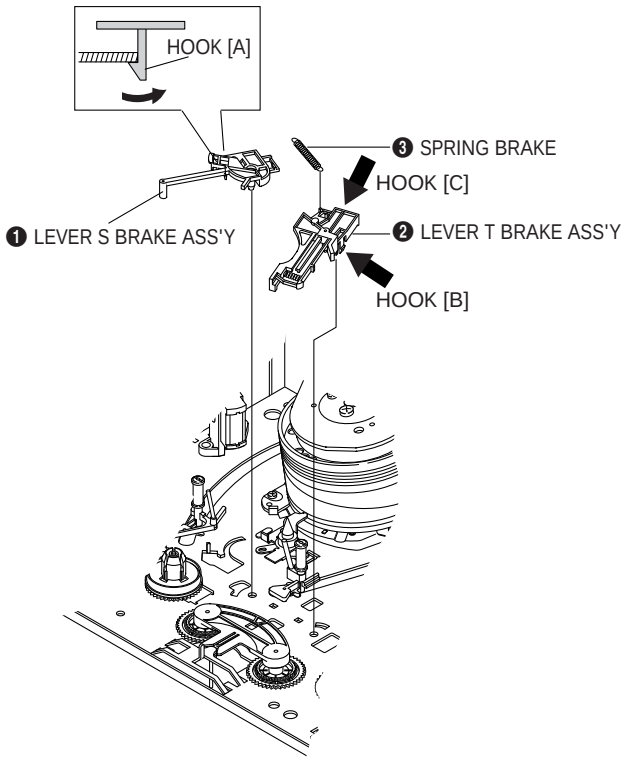


Fig. 1-16 Lever S, T Brake Ass'y Removal

1-2-14 Lever Idle Ass'y Removal

1) Push the Lever Idle ❶ in the direction of arrow "A", "B".
2) Lift the Lever Idle ❶.

Assembly :
1) Apply oil in two Bosses of Lever Idle ❶.
2) Assemble the Gear Idle ❷ with the Lever Idle ❶.

Note : When replacing the Gear Idle ❷, be sure to add oil in the boss of Lever Idle ❶.

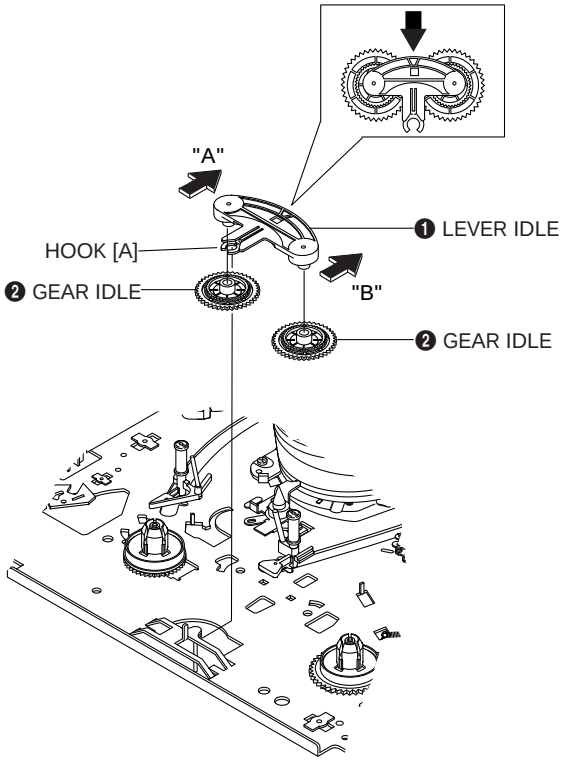


Fig. 1-17 Lever Idle Ass'y Removal

1-2-15 Disk S, T Reel Removal

1) Lift the Disk S, T Reel ❶, ❷.

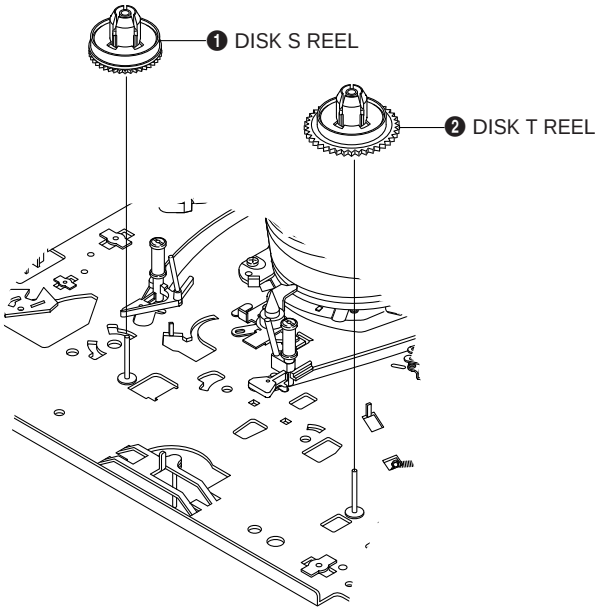


Fig. 1-18 Disk S, T Reel Removal

1-2-16 Holder Clutch Ass'y Removal

1) Remove the Washer Slit ❶.
2) Lift the Holder Clutch Ass'y ❷.

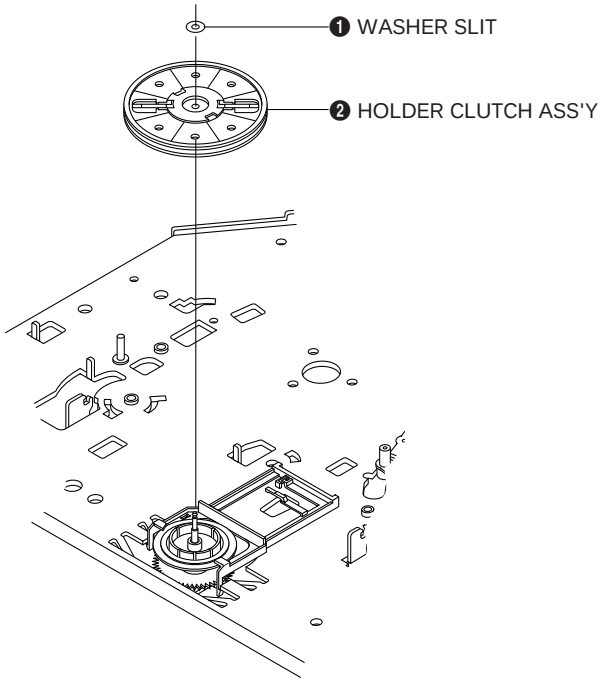


Fig. 1-19 Holder Clutch Ass'y Removal

1-2-17 Lever Up Down Ass'y, Gear Center Ass'y Removal

1) Remove the 2 hooks in the direction of arrow as shown Fig. 1-20 and lift the Lever Up Down Ass'y ❶.
2) Lift the Gear Center Ass'y ❷.

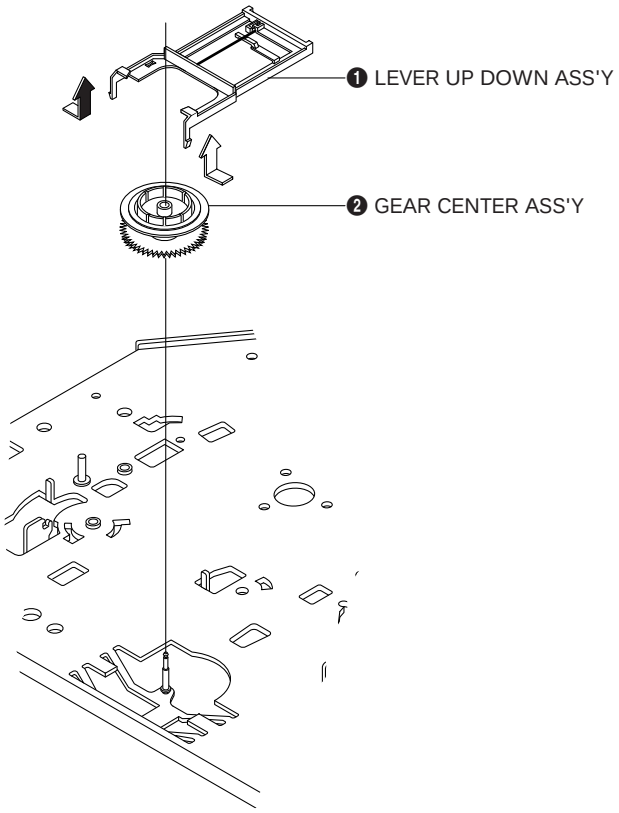


Fig. 1-20 Lever Up Down Ass'y, Gear Center Ass'y Removal

1-2-18 Assembly of Lever Up Down Ass'y, Gear Center Ass'y

1) Insert the Lever Up Down Ass'y ❶ in the 2 rectangular holes on Main Base.
2) Lift the Lever Up Down Ass'y ❶ about 35 degree. (Refer to Fig. 1-21)
3) Insert Ring ❹ of the Gear Center Ass'y ❷ in the Guide ❺ of the Lever Up Down Ass'y ❶.
4) Insert the Gear Center Ass'y ❷ in the post ❻ on Main Base.
5) Push down the Lever Up Down Ass'y ❶ for locking of the Hook ❼.

Note :
1) Take care not to separate and loose the Spring Up Down.
2) When assembling the Gear Center Ass'y, don't push down too much.

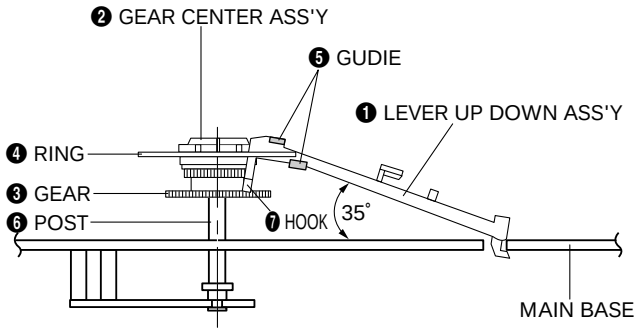


Fig. 1-21 Assembly of Lever Up Down Ass'y, Gear Center Ass'y

1-2-19 Guide Cassette Door Removal

1) Lift the Hook [A].
2) Rotate the Guide Cassette Door ❶ in the direction of arrow.

Note : After reinstalling the Guide Cassette Door ❶ secure the Hook [A].

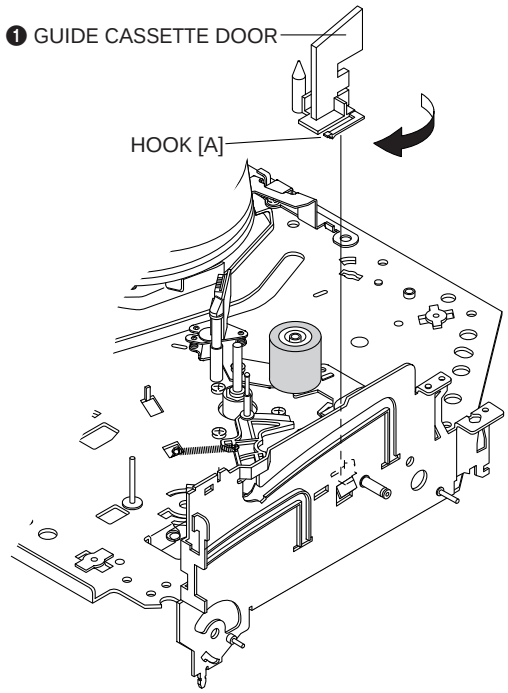


Fig. 1-22 Guide Cassette Door Removal

1-2-20 Unit Pinch Ass'y, Plate Joint, Spring Pinch Drive Removal

1) Lift the Unit Pinch Ass'y ❶.
2) Remove the Plate Joint ❷ from Lever Pinch Drive.
3) Remove the Spring Pinch Drive ❸.

Note :
1) Take extreme care not to touch the grease on the Roller Pinch.
2) When reinstalling, be sure to apply grease on the post pinch roller.

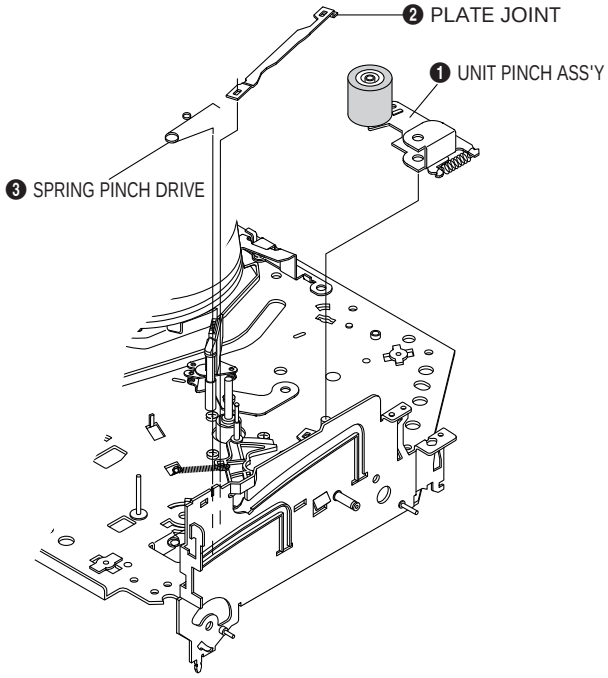


Fig. 1-23 Unit Pinch Ass'y, Plate Joint, Spring Pinch Drive Removal

1-2-21 Lever #9 Guide Ass'y Removal

1) Remove the Spring #9 Guide ❶.
2) Lift the Lever #9 Guide Ass'y ❷ in the direction of arrow.

Note :
1) Take extreme care not to touch the grease on the tape Guide Post.
2) After reinstalling, check the bottom side of the Post #9 Guide to stick to the top side of Main Base.

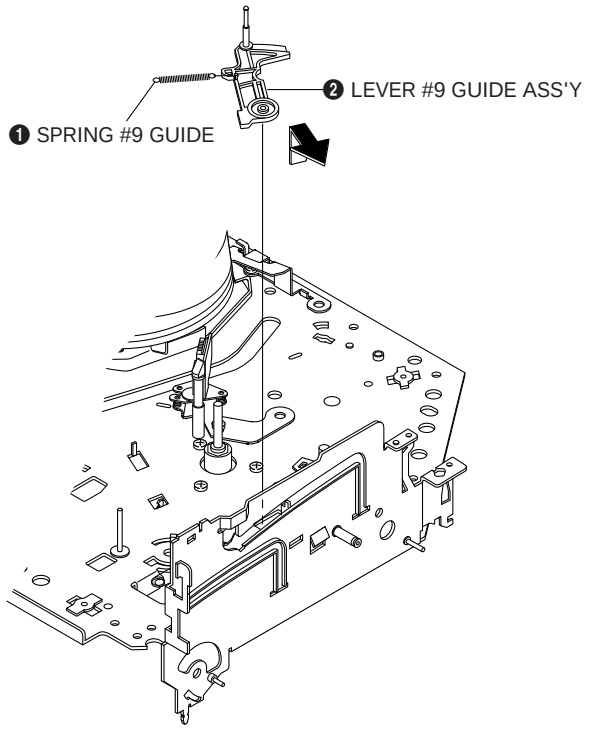


Fig. 1-24 Lever #9 Guide Ass'y Removal

1-2-22 FE Head Removal

1) Remove the screw ❶.
2) Lift the FE Head ❷.

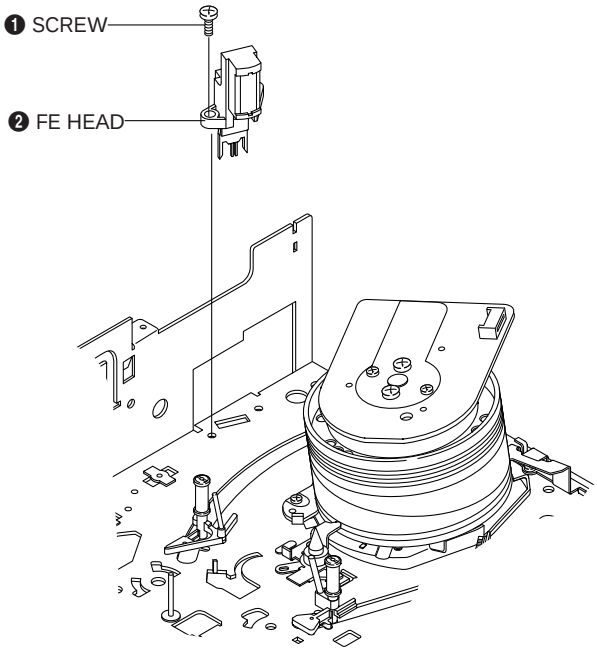


Fig. 1-25 FE Head Removal

1-2-23 ACE Head Removal

1) Pull out the FPC from connector of ACE Head Ass'y ❷.
2) Remove the screw ❶.
3) Lift the ACE Head Ass'y ❷.

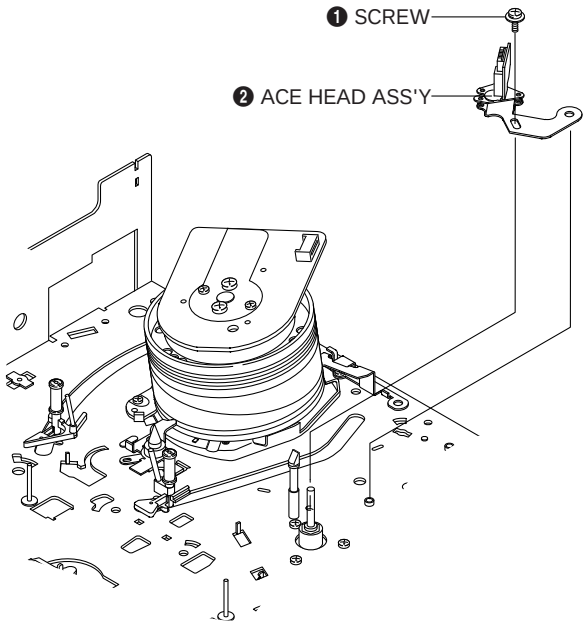


Fig. 1-26 ACE Head Removal

1-2-24 Slider S, T Ass'y Removal

1) Move the Slider S, T Ass'y ❶, ❷ to slot, and then lift it to remove. (Refer to arrow)

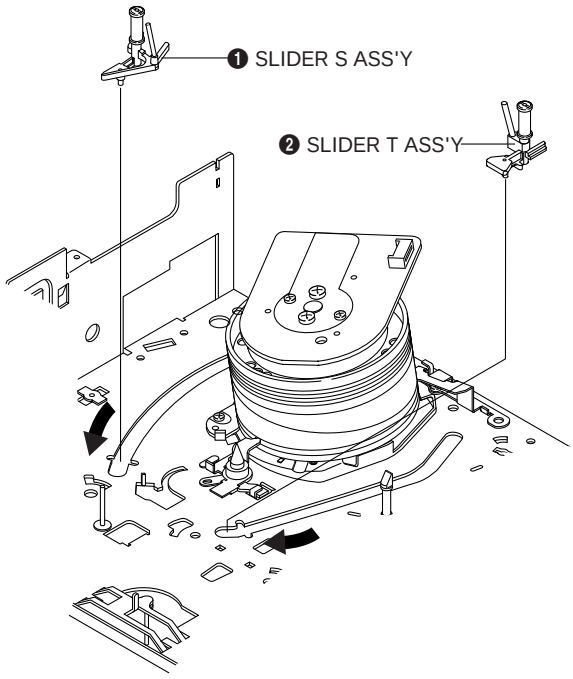


Fig. 1-27 Slider S, T Ass'y Removal

1-2-25 Cylinder Ass'y Removal

1) Remove the 3 Screws ❶, ❸, ❺.
2) Remove the Plate Cylinder A, B, C ❷, ❹, ❻ in the direction of arrow.
3) Lift the Cylinder Ass'y ❼.

Note :
1) When reinstalling, push the Plate Cylinder A, B ❹, ❻ in the reverse of arrow and then, tighten the 2 Screws ❸, ❺.
2) Take care not to touch the Cylinder Ass'y and the tape guide post at reinstalling Plate Cylinder C ❷.
3) Take care not to touch the Cylinder Ass'y with screw driver at reinstalling the Plate Cylinder C ❷.

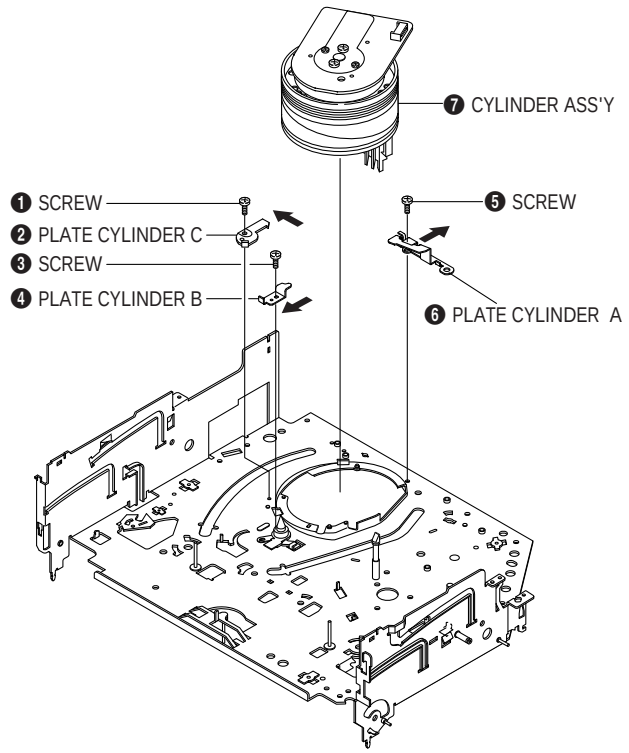


Fig. 1-28 Cylinder Ass'y Removal

1-2-26 Belt Pulley Removal

1) Remove the Belt Pulley ❶.

Note : Take extreme care not to touch the grease on Belt Pulley ❶ at assembling or reassembling.

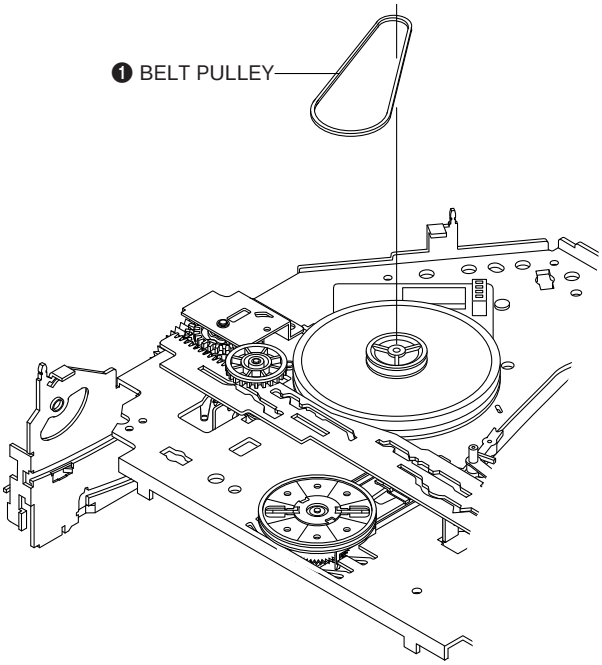


Fig. 1-29 Belt Pulley Removal

1-2-27 Lever Head Cleaner Ass'y Removal (Optional)

1) Release the Hook ❶.
2) Lift the Lever Head Cleaner Ass'y ❷.

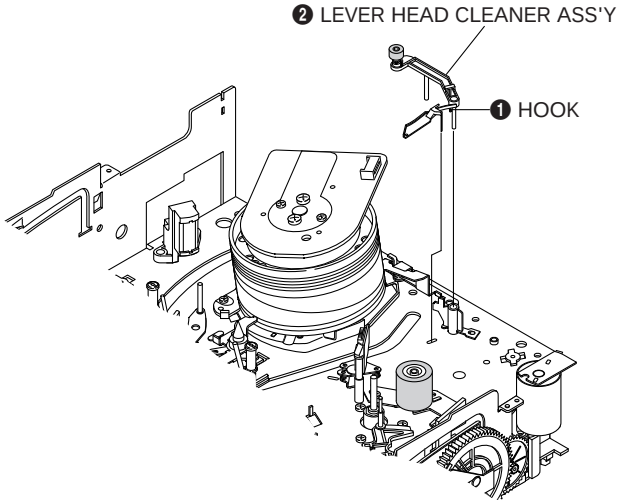


Fig. 1-30 Lever Head Cleaner Ass'y Removal

1-2-28 Motor Capstan Ass'y Removal

1) Remove the 3 Screws ❶.
2) Remove the Motor Capstan Ass'y ❷.

Assembly :
1) Match the 3 holes of Motor Capstan Ass'y ❷ to the 3 holes of Main Base as attending not to drop or knock the Motor Capstan Ass'y.
2) Tighten the 3 Screws in the direction of arrow as shown detail drawing.

Note :
1) Don't reuse the removed screws from Motor Capstan Ass'y.
2) After tightening screws, check if there is gap between the head of screws and the top side of Main Base. There should have no gap between the head of screws and the top side of Main Base.
3) After reinstalling, adjusting the tape transport system again.

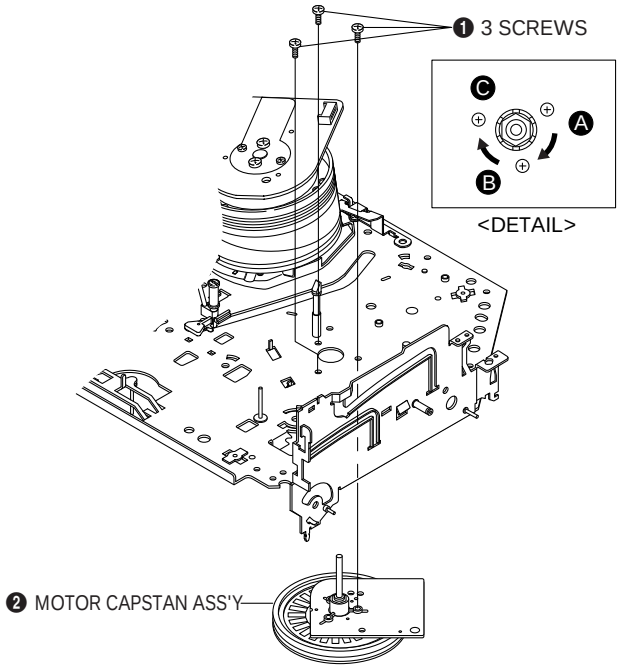


Fig. 1-31 Motor Capstan Ass'y Removal

1-2-29 How to Eject the Cassette Tape (If the unit does not operate on condition that is inserted into housing ass'y)

1) Remove the Holder worm ❶ and the Gear Worm ❷.
2) Turn the Gear Worm Wheel ❸ counterclockwise with screw driver. (Refer to arrow)

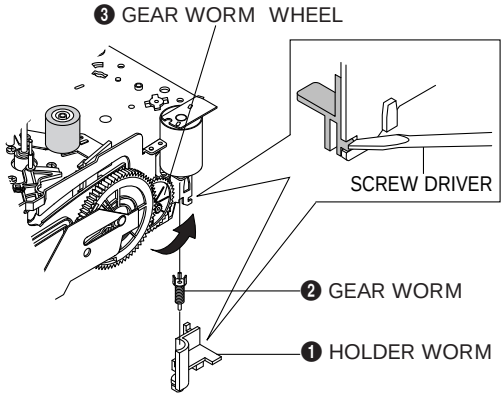


Fig. 1-32

3) When Slider S, T are approached in the position of unloading, rotate holder Clutch counterclockwise after inserting screw driver in the hole of frame's bottom in order to wind the unwounded tape. (Refer to Fig. 1-33)
(If you rotate Gear Worm Wheel continuously when tape is in state of unwinding, you may cause a tape contamination by grease and tape damage. Be sure to wind the unwounded tape in the state of set horizontally.)
4) Rotate Gear Worm Wheel ❸ counterclockwise using screw driver again up to the state of eject mode and then pick out the tape. (Refer to Fig. 1-32)

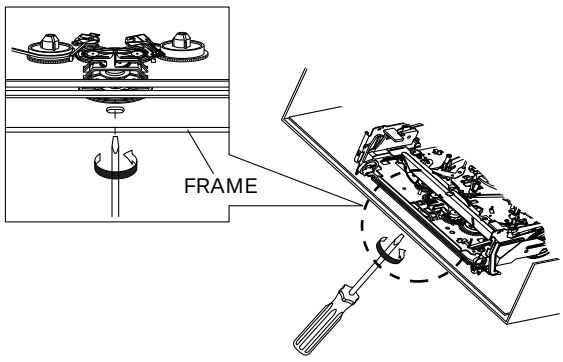


Fig. 1-33

1-3 The table of clearing, Lubrication and replacement time about principal parts

1) The replacement time of parts is not life of parts.
2) The table 1-1 is that the VCR Set is in normal condition (normal temperature, normal humidity).
   The checking period may be changed owing to the condition of use, runtime and environmental conditions.
3) Life of the Cylinder Ass'y is depend on the condition of use.
4) See exploded view for location of each parts.

<Table 1-1>

*	Parts Name	Checking Period										Remark
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
TAPE PATH SYSTEM	POST TENSION	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	- To clean the parts, use patch and alcohol (solvent). - After cleaning, use the video tape after alcohol is gone away completely. - We recommend to use oil [EP-56] or solvent. - One or two drops of oil should be applied after cleaning with alcohol.
	SLANT POST S, T	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	#8 GUIDE SHAFT	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	CAPSTAN SHAFT	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	#9 GUIDE POST	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	#3 GUIDE POST	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	GUIDE ROLLER S, T	Δ	Δ	Δ	O	O	O	O	O	O	O	
	CYLINDER ASS'Y	Δ	O	O	O	O	O	O	O	O	O	
	FE HEAD	Δ	Δ	Δ	O	O	O	O	O	O	O	
	ACE HEAD	Δ	O	O	O	O	O	O	O	O	O	
	PINCH ROLLER	Δ	O	O	O	O	O	O	O	O	O	
	POST REEL S, T		◆		◆		◆		◆		◆	- Periodic time of applying oil (Apply oil after cleaning) - The excessive applying oil may be the cause of malfunction.
	SLEEVE TENSION		◆		◆		◆		◆		◆	
	POST CENTER		◆		◆		◆		◆		◆	
	LEVER IDLE BOSS (2Point)		◆		◆		◆		◆		◆	
DRIVING SYSTEM	CAPSTAN MOTOR PULLEY	Δ	Δ	Δ	Δ	Δ	O	O	O	O	O	
	BELT PULLEY				O	O	O	O	O	O	O	
	HOLDER CLUTCH ASS'Y	Δ	O	O	O	O	O	O	O	O	O	
	GEAR CENTER ASS'Y		O	O	O	O	O	O	O	O	O	
	GEAR IDLE (2Point)		O	O	O	O	O	O	O	O	O	
	LOADING MOTOR		O	O	O	O	O	O	O	O	O	
BRAKE SYSTEM	BAND BRAKE ASS'Y		O	O	O	O	O	O	O	O	O	
	BRAKE T ASS'Y		O	O	O	O	O	O	O	O	O	

Δ : Cleaning O : Check and replacement in necessary ◆ : Add Oil

2. Alignment and Adjustment

2-1 Tape Transport System and Adjustment Locations

The tape transport system has been adjusted precisely in the factory. Alignment is not necessary except for the following :
1) Noise observed on the screen.
2) Tape damage.
3) Parts replacement in the tape transport system.

Lower flange height of tape guide is used as the reference for the transport adjustment.
To maintain the height of the tape guide and prevent damage, do not apply excessive force onto the main base.

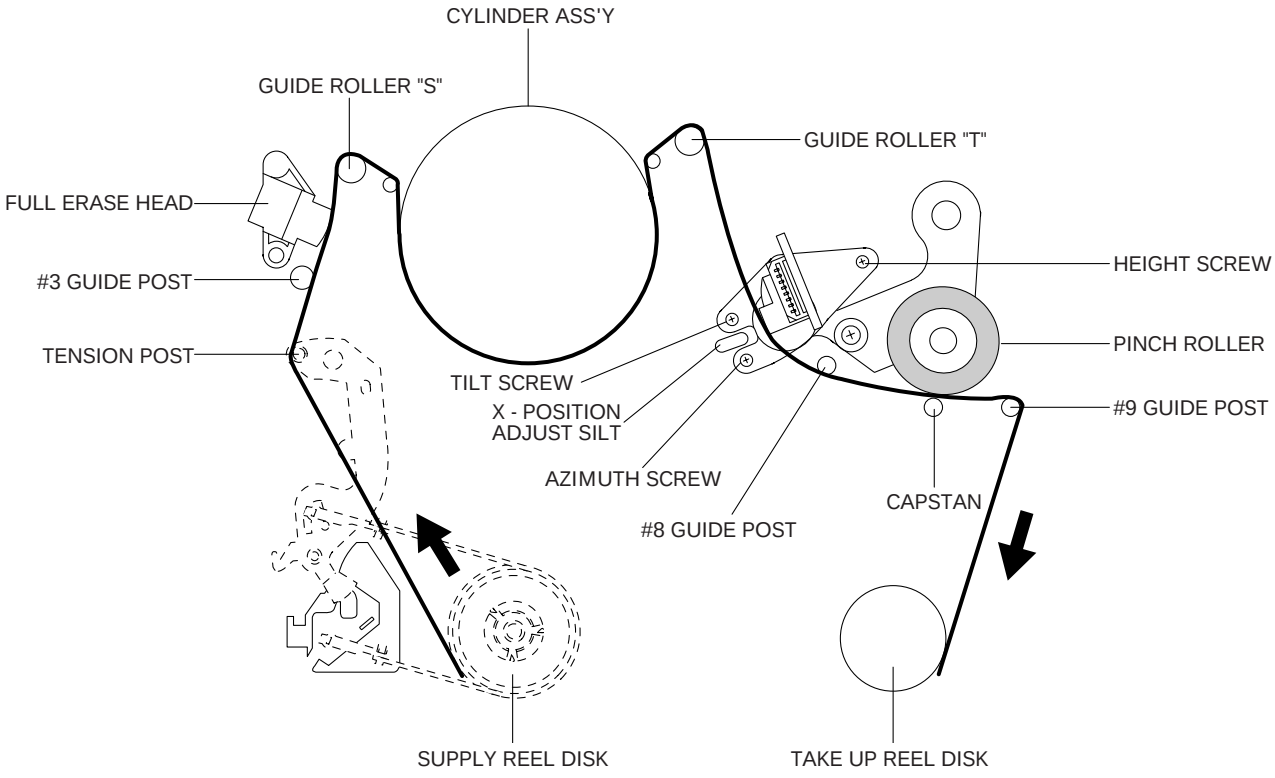


Fig. 2-1 Location of Tape Transport Adjustment

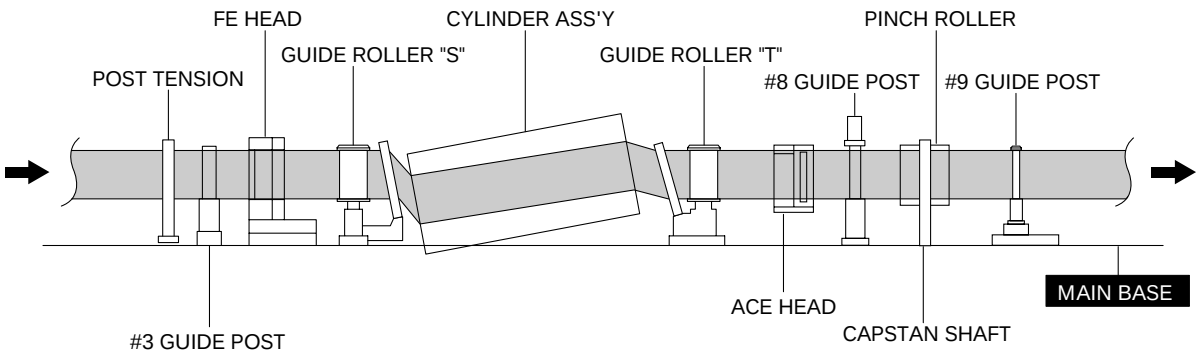


Fig. 2-2 Tape Travel Diagram

2-2 Tape Transport System Adjustment

When parts are replaced, perform the required adjustments by referring to procedures for the tape transport system. If there are any changes to the tape path, first run a T-120 tape and make sure excessive tape wrinkle does not occur at the tape guides.

1) If tape wrinkle is observed at the guide roller S, T, turn the guide roller S, T until wrinkle disappears.
2) If the tape wrinkle is still observed at the tape guide, perform the tilt adjustment of the ACE head. (See page 5-3 of the Service Manual for Test Point Locations.)

2-2-1 ACE Head Assembly Adjustment

2-2-1(a) ACE HEAD HEIGHT ADJUSTMENT

1) Run the alignment tape (Color bar) in the playback mode.
2) Observe surface of the audio head using a dental mirror.
3) Turn screw (C) clockwise or counterclockwise until the gap of lower tape edge and the lower edge of the control head is about 0.25mm. (Refer to Fig. 2-3 and 2-4)

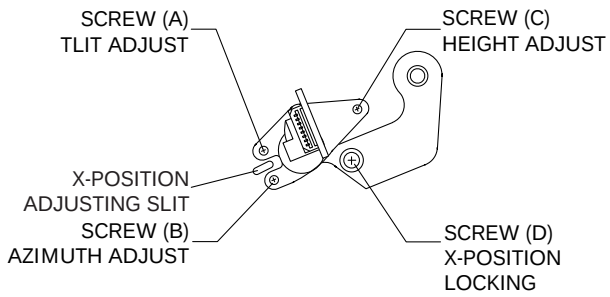


Fig. 2-3 Location of ACE Head Adjustment Screw

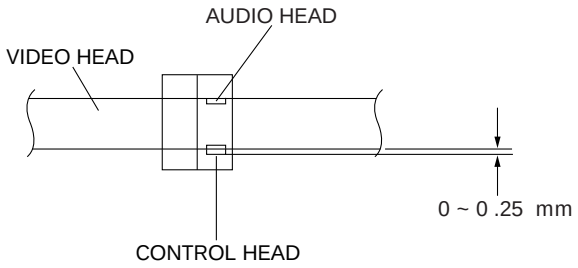


Fig. 2-4 ACE Head Height Adjustment

2-2-1(b) ACE HEAD TILT ADJUSTMENT

1) Playback a blank tape and observe the position of the tape at the lower flange of tape guide.
2) Confirm that there is no curl or wrinkle at the lower flange of tape guide as shown in Fig. 2-5 (B).
3) If a curl or wrinkle of the tape occurs, slightly turn the screw (A) tilt adjust on the ACE head ass'y.
4) Reconfirm the ACE head height.

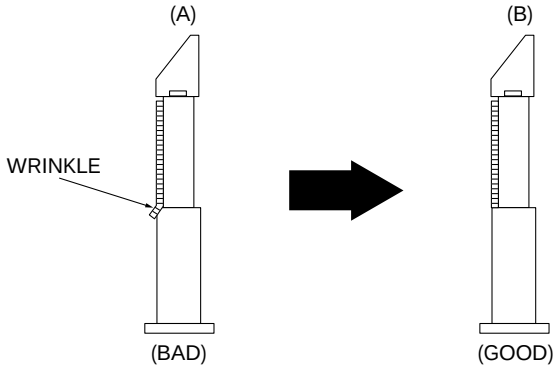


Fig. 2-5 Tape Guide Check

2-2-1(c) AUDIO AZIMUTH ADJUSTMENT

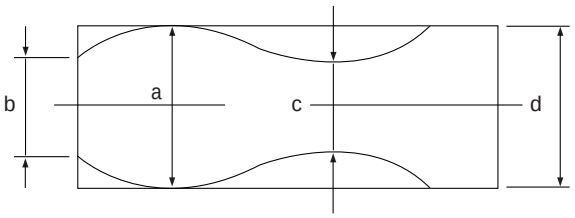
1) Load alignment tape (Mono scope) and playback the NTSC : 7KHz (PAL : 6KHz) signal.
2) Connect channel-1 scope probe to audio output test point.
3) Adjust screw (B) to achieve maximum audio level. (See Fig. 2-3)

2-2-1(d) ACE HEAD POSITION (X-POINT) ADJUSTMENT

1) See page 5-1 of the Service Manual for ACE Head position (X-Point) adjustment.

2-2-2 Linearity adjustment (Guide roller S, T adjustment)

1) Playback the Mono Scope alignment tape (SP mode).
2) Observe the video envelope signal on an oscilloscope (triggered by the video switching pulse).
3) Make sure the video envelope waveform (at its minimum) meets the specification shown in Fig. 2-6.
   If it does not, adjust as follows :



a b c d
c,b,d/a ≧ 63%

Fig. 2-6 Envelope Waveform Adjustment

Note :
a=Maximum output of the video RF envelope.
b=Minimum output of the video RF envelope at the entrance side.
c=Minimum output of the video RF envelope at the center point.
d=Maximum output of the video RF envelope at the exit side.

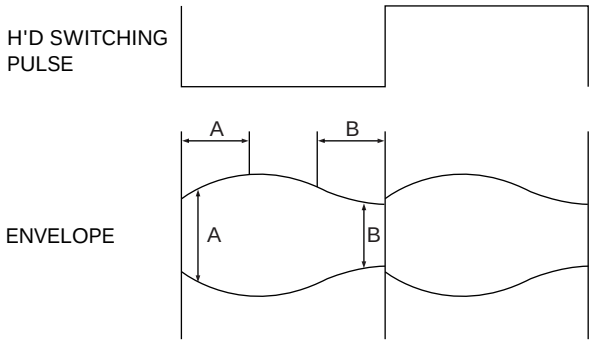


Fig. 2-7 Adjustment Points

4) If the section A in Fig. 2-7 does not meet the specification, adjust the guide roller S up or down.
5) If the section B in Fig. 2-7 does not meet the specification, adjust the guide roller T up or down.
6) Play back the Mono Scope alignment tape (SP mode).
7) Connect an oscilloscope CH-1 to the Envelope and CH-2 to the H'D SW Pulse for triggering.
8) Turn the guide roller heads with a flat head (▬) driver to obtain a flat video RF envelope as shown in Fig. 2-8.

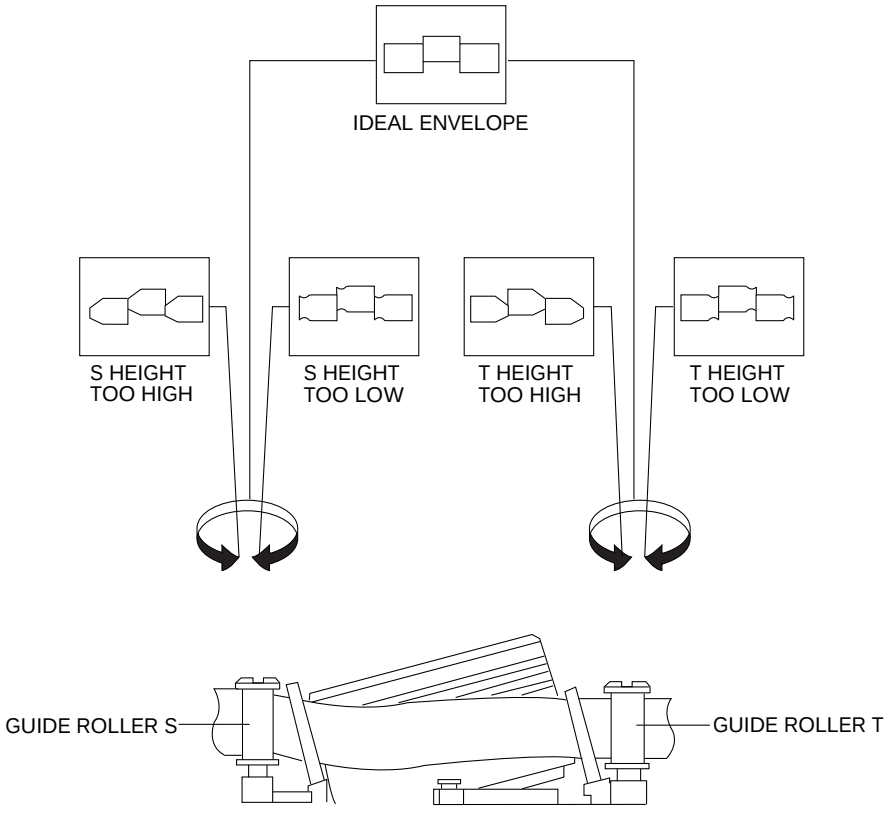


Fig. 2-8 Guide Roller S, T Height Adjustment

2-2-3 Check Transitional Operation from RPS to Play

Check transition from RPS mode to play mode :
Using a pre-recorded SP tape, make sure the entry side of envelope comes to an appropriate steady state within 3 seconds (as shown in Fig. 2-9).
If the envelope waveform does not reach specified peak-to peak amplitude within 3 seconds, adjust as follows :

1) Make sure there is no gap between the supply roller lower flange and the tape.
   If there is a gap, adjust the supply guide roller again.
2) Change operation mode from the RPS to the play mode (again) and make sure the entry side of envelope rises within 3 second.

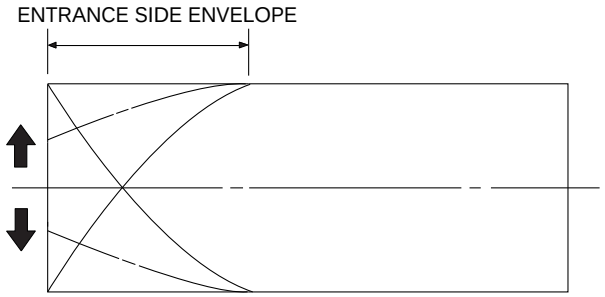


Fig. 2-9 Video Envelope Rising when Operation mode Changes from RPS to Play Mode

2-2-4 Envelope Check

1) Make recordings on T-120 (E-120) and T-160 (E-180) tape.
   Make sure the playback output envelope meets the specification as shown in Fig. 2-10.
2) Play back a self recorded tape (recording made on the unit using with T-120 (E-120).
   The video envelope should meet the specification as shown in Fig. 2-10.
   In SP mode, (A) should equal (B).
   If the head gap is wide, upper cylinder should be checked.

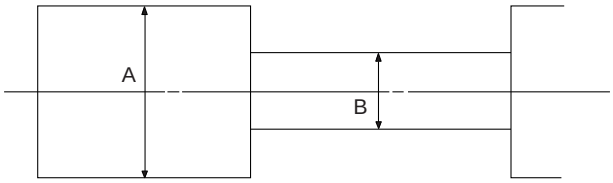


Fig. 2-10 Envelope Output and Output Level

2-2-5 Tape Wrinkle Check

1) Run the T-160 (E-180) tape in the playback, FPS, RPS and Pause modes and observe tape wrinkle at each guide.
2) If excessive tape wrinkle is observed, perform the following adjustments in Playback mode :

- Tape wrinkle at the guide roller S, T section : Linearity adjustment.
- Tape wrinkle at tape guide flange : ACE head assembly coarse adjustment.

2-3 Reel Torque

1) The rotation of the capstan motor causes the Holder Clutch Ass'y to rotate through the Belt Pulley.
2) The spring wrap PLAY/REV of holder clutch ass'y drives the disk reel S, T through gear idle by rotation of gear center ass'y.
3) Brake is operated by slider cam at FF/REW mode.
4) Transportation of accurate driving force is done by gears. (Gear Center Ass'y)

Note : If the spec. does not meet the followings specifications, replace the holder clutch ass'y and then recheck.

<Table 2-1>

MODE	TORQUE g/cm		GAUGE
PB	NTSC	82.5 ± 27.5	Cassette Torquemeter
	PAL	79 ± 27	
RPS	145 ± 30		Cassette Torquemeter

2-4 Location adjustment and Confirmation of Tension Post

1) Remove the holder cassette ass'y and then push the lever FL Arm-R to the direction of loading.
2) Push the lever tension drive ❶ in the direction of arrow. (See Fig. 2-11)
3) Turn the gear worm wheel ❷ clockwise so that "Timing Point" of the slider FL drive ❸ and gear FL cam ❹ can be aligned (See Fig. 2-12)

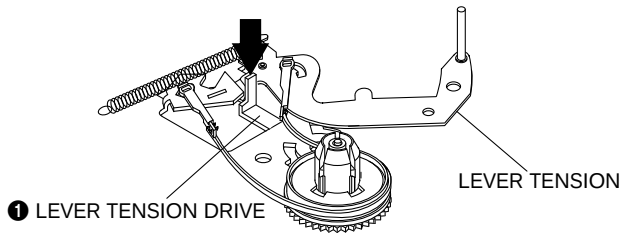


Fig. 2-11

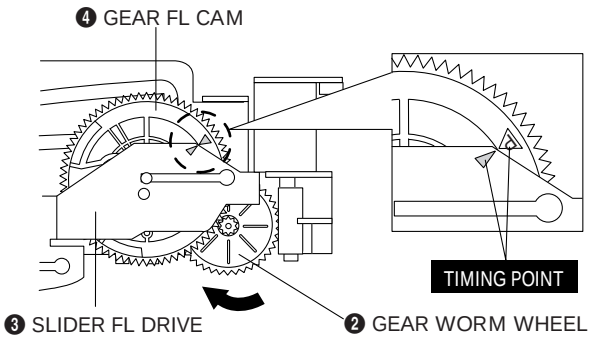


Fig. 2-12

4) As rotating Disk S Reel ❶ clockwise and the region of adjusting in the Main Base (in shape of slit) clockwise or counterclockwise after inserting screw driver in the slit on Main Base. Adjust the left end edge of Lever Tension Ass'y ❸ to 1.3 +1.5/-0.5mm from the location of mark in the Main Base.
5) As rotating Disk S Reel ❶, double-check the location of the left end edge of Lever Tension Ass'y and the quantity of crossing from mark on Main Base. (+1.0/-0.5mm)

Counterclockwise : Torque UP
Clockwise : Torque DOWN

Back Tension should be 56 ± 15g.cm at inspecting it with Back Tension Meter.

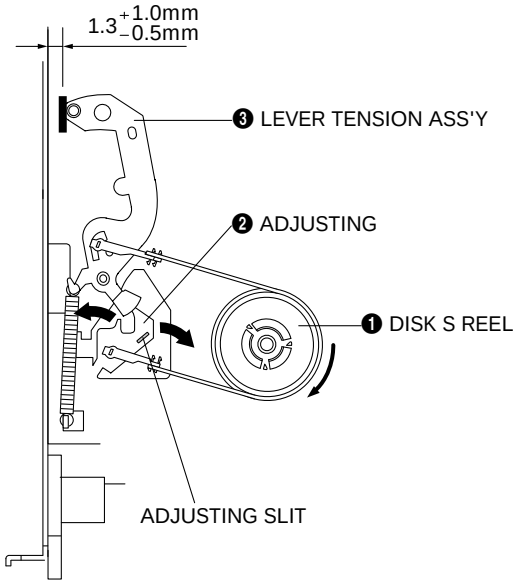


Fig. 2-13 Tension Pole and Back Tension Adjustment

Note :
1) Mark on Main Base is located in about 1.3mm from inside of bending line.
2) Be careful not to deform the region of adjusting on Main Base up and down at adjusting.

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